IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

CRYSTALLEX INTERNATIONAL CORPORATION, Plaintiff, v. BOLIVARIAN REPUBLIC OF VENEZUELA, Defendant.	Case No. 1:17-mc-00151-LPS

EXHIBITS 1 - 6 TO AUGUST 14, 2023, LETTER FROM GARRETT B. MORITZ TO SPECIAL MASTER ROBERT B. PINCUS (ATTACHED JUDGMENT STATEMENT)

ROSS ARONSTAM & MORITZ LLP

Garrett B. Moritz (Bar No. 5646)
Elizabeth M. Taylor (Bar No. 6468)
1313 North Market Street, Suite 1001
Wilmington, Delaware 19801
(302) 576-1600
gmoritz@ramllp.com
etaylor@ramllp.com

Attorneys for Phillips Petroleum Company Venezuela Limited, ConocoPhillips Petrozuata B.V., ConocoPhillips Hamaca B.V., and ConocoPhillips Gulf of Paria B.V.

Of Counsel:

Michael S. Kim
Marcus J. Green
Josef M. Klazen
Lydia L. Halpern
KOBRE & KIM LLP
800 Third Avenue
New York, New York 10022
(212) 488-1200
michael.kim@kobrekim.com
marcus.green@kobrekim.com
jef.klazen@kobrekim.com
lydia.halpern@kobrekim.com

Richard G. Mason
Amy R. Wolf
Michael H. Cassel
WACHTELL, LIPTON, ROSEN & KATZ
51 West 52nd Street
New York, New York 10019
(212) 403-1000
RGMason@wlrk.com
ARWolf@wlrk.com
MHCassel@wlrk.com

Dated: August 14, 2023

Exhibit 1

USDC SDNY
DOCUMENT
ELECTRONICALLY FILED
DOC #:
DATE FILED: 8/23/18

EXHIBIT A

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

PHILLIPS PETROLEUM COMPANY VENEZUELA LIMITED and CONOCOPHILLIPS PETROZUATA B.V.,

Petitioners,

v.

PETRÓLEOS DE VENEZUELA, S.A., CORPOGUANIPA, S.A., and PDVSA PETRÓLEO, S.A.,

Respondents.

Case No. 18-cv-03716-VEC

JUDGMENT

This matter is before the Court on (1) the petition ("Petition") of Phillips Petroleum Company Venezuela Limited and ConocoPhillips Petrozuata B.V. ("Petitioners") for an order and judgment confirming, recognizing and enforcing a final, binding arbitration award against Petróleos de Venezuela, S.A., PDVSA Petróleo, S.A. and Corpoguanipa, S.A. ("Respondents"), issued in New York, New York on April 24, 2018 by an arbitration tribunal constituted under the auspices of the International Chamber of Commerce in *Phillips Petroleum Company Venezuela Limited and ConocoPhillips Petrozuata B.V. v. Petróleos de Venezuela, S.A., Corpoguanipa, S.A. and PDVSA Petróleo, S.A.*, Case No. 20549/ASM/JPA (C-20550/ASM), as amended by the ICC Tribunal on July 19, 2018, (the "ICC Award"); and (2) the stipulation of Petitioners and Respondents stipulating and consenting to the entry of judgment confirming the ICC Award ("Stipulation").

Upon the Petition and Stipulation and pursuant to sections 9 and 207 of the Federal Arbitration Act, 9 U.S.C. §§ 9, 207 and Article V of the United Nations Convention on the

Recognition and Enforcement of Foreign Arbitral Awards, June 10, 1958, 21 U.S.T. 2517, 330 U.N.T.S. 38, this Court hereby:

ORDERS, ADJUDGES AND DECREES:

The Petition is granted; **Final Money Judgment** is entered in favor of Phillips Petroleum Company Venezuela Limited against Corpoguanipa, S.A. and Petróleos de Venezuela, S.A., jointly and severally, in the liquidated amount of US $1,498,399,209, plus simple interest at a rate of 3-month LIBOR, running from April 26, 2018; in favor of ConocoPhillips Petrozuata B.V. against PDVSA Petróleo, S.A. and Petróleos de Venezuela, S.A., jointly and severally, in the liquidated amount of US $434,884,356, plus simple interest at a rate of 12-month LIBOR, running from April 26, 2018; and in favor of Phillips Petroleum Company Venezuela Limited and ConocoPhillips Petrozuata B.V. against Petróleos de Venezuela, S.A., Corpoguanipa, S.A. and PDVSA Petróleo, S.A., jointly and severally, in the liquidated amount of US $231,200.00, plus simple interest at a rate of 12-month LIBOR, running from April 26, 2018.

This Court **FURTHER ORDERS, ADJUDGES AND DECREES:**

That execution shall issue upon this judgment and that this Court retains jurisdiction over the parties and the matter for any further proceedings as may be necessary to enforce the terms of this Judgment, and to grant such other and further relief as the Court deems appropriate in the interests of justice.

ORDERED this 22nd day of August, 2018.

Valerie Caproni

Hon. Valerie E. Caproni
United States District Judge

Exhibit 2

AO 451 (Rev. 12/12) Clerk's Certification of a Judgment to be Registered in Another District

UNITED STATES DISTRICT COURT

for the

Southern District of New York

CONOCOPHILLIPS GULF OF PARIA B.V.,
Plaintiff
v.
CORPORACIÓN VENEZOLANA DEL PETRÓLE
Defendant

Civil Action No. 19-cv-07304-LGS

CLERK'S CERTIFICATION OF A JUDGMENT TO BE REGISTERED IN ANOTHER DISTRICT

I certify that the attached judgment is a copy of a judgment entered by this court on *(date)* 12/03/2020 .

I also certify that, as appears from this court's records, no motion listed in Fed. R. App. P. 4(a)(4)(A) is pending before this court, the time for appeal has expired, and no appeal has been filed or, if one was filed, it is no longer pending.

Date: May 24, 2022

CLERK OF COURT

Signature of ~~Clerk~~ or Deputy Clerk

Print Save As... Reset

EXHIBIT A

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

CONOCOPHILLIPS GULF OF PARIA B.V., Petitioner, v. CORPORACIÓN VENEZOLANA DEL PETRÓLEO, S.A., and PETRÓLEOS DE VENEZUELA, S.A., Respondents.	Case No. 19-cv-07304-LGS

~~[PROPOSED]~~ JUDGMENT

This matter is before the Court on (1) the petition ("Petition") of ConocoPhillips Gulf of Paria B.V. ("Petitioner") for an order and judgment confirming, recognizing and enforcing a final, binding arbitration award against Corporación Venezolana del Petróleo S.A. and Petróleos de Venezuela, S.A. ("Respondents"), issued in New York, New York on July 29, 2019 by an arbitration tribunal constituted under the auspices of the International Chamber of Commerce in *ConocoPhillips Gulf of Paria B.V. v. Corporación Venezolana del Petróleo S.A. and Petróleos de Venezuela, S.A.*, Case No. 22527/ASM/JPA (the "ICC Award"); and (2) the stipulation of Petitioner and Respondents stipulating and consenting to the entry of judgment confirming the ICC Award ("Stipulation").

Upon the Petition and Stipulation and pursuant to sections 9 and 207 of the Federal Arbitration Act, 9 U.S.C. §§ 9, 207 and Article V of the United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards, June 10, 1958, 21 U.S.T. 2517, 330 U.N.T.S. 38, this Court hereby:

ORDERS, ADJUDGES AND DECREES:

The Petition is granted; **Final Money Judgment** is entered in favor of ConocoPhillips Gulf of Paria B.V. against Corporación Venezolana del Petróleo S.A. and Petróleos de Venezuela, S.A., jointly and severally, in the liquidated amount of US $48,008,707 (forty-eight million, eight thousand, seven hundred and seven United States Dollars) and interest shall accrue on this judgment at the rate set forth in 28 U.S.C. § 1961.

This Court **FURTHER ORDERS, ADJUDGES AND DECREES:**

That execution shall issue upon this judgment and that this Court retains jurisdiction over the parties and the matter for any further proceedings as may be necessary to enforce the terms of this Judgment, and to grant such other and further relief as the Court deems appropriate in the interests of justice.

The Clerk of Court is respectfully directed to close the case.

So Ordered.

Dated: December 3, 2020
New York, New York

LORNA G. SCHOFIELD
UNITED STATES DISTRICT JUDGE

CERTIFIED AS A TRUE COPY ON
THIS DATE 5/24/2022
BY
( ) Clerk
( ) Deputy

Exhibit 3

AO 450 (Rev. 01/09; DC-03/10) Judgment in a Civil Action

UNITED STATES DISTRICT COURT

for the

District of Columbia

Conocophillips Petrozuata B. V., et al *Plaintiff* v. Bolivarian Republic of Venezuela *Defendant*	)))))	Civil Action No. CV 19-683 (CJN)

JUDGMENT IN A CIVIL ACTION

The court has ordered that *(check one)*:

❐ the plaintiff *(name)* CONOCOPHILLIPS PETROZUATA B.V. et al recover from the defendant *(name)* BOLIVARIAN REPUBLIC OF VENEZUELA the amount of $8,505,945,292.00 dollars ($ ________), which includes prejudgment interest at the rate of 5.50 %, plus postjudgment interest at the rate of ________ %, along with costs.

❐ the plaintiff recover nothing, the action be dismissed on the merits, and the defendant *(name)* ________ recover costs from the plaintiff *(name)* ________ .

☑ other: See attached Order.

This action was *(check one)*:

❐ tried by a jury with Judge ________ presiding, and the jury has rendered a verdict.

❐ tried by Judge ________ without a jury and the above decision was reached.

☑ decided by Judge Carl J. Nichols on a motion for Default Judgment

Date: 08/19/2022

ANGELA D. CAESAR, CLERK OF COURT

Courtney Lesley Digitally signed by Courtney Lesley Date: 2022.08.26 18:54:34 -04'00'

Signature of Clerk or Deputy Clerk

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

CONOCOPHILLIPS PETROZUATA B.V., et al., *Petitioners*, v. BOLIVARIAN REPUBLIC OF VENEZUELA, *Respondent*.	Civil Action No. 1:19-cv-0683 (CJN)

ORDER

This matter is before the Court on Petitioners' Motion for Default Judgment, ECF No. 35. Petitioners seek an order recognizing and enforcing the final Award rendered on March 8, 2019 in the arbitration between Petitioners and the Bolivarian Republic of Venezuela conducted under the ICSID in Case No. ARB/07/30, captioned *ConocoPhillips Petrozuata B.V., ConocoPhillips Hamaca B.V., ConocoPhillips Gulf of Paria B.V., and ConocoPhillips Company v. Bolivarian Republic of Venezuela*.

For the reasons set forth in the accompanying Memorandum Opinion, it is

ORDERED that Petitioners' Motion is **GRANTED**. It is further

ORDERED that the Court **RECOGNIZES** and **ENFORCES** the Award pursuant to 22 U.S.C. § 1650a. It is further

ORDERED that, in accordance with the pecuniary obligations of the Award, Venezuela shall pay to the Petitioners:

i. Damages as awarded by the Tribunal in the amount of $8,505,945,292;[1]

ii. Interest on the sum of $8,505,945,292, as follows:

   a. Interest on the sum of $8,366,137,393 from May 7, 2019 to the date of this Judgment, at an annual rate of 5.5% compounded annually; and

   b. Simple interest on the sum of $139,807,899 from May 7, 2019 to the date of this Judgment, at 12-month LIBOR;

iii. Reimbursement of Petitioners' payments of arbitration costs and a portion of their legal fees in the amount of $21,744,405.72;

iv. Simple interest on the sum of $21,744,405.72 from May 7, 2019 to the date of this Judgment, at an annual rate of 3%; and

v. Post-judgment interest pursuant to 28 U.S.C. § 1961 on all the above amounts from the date of this Judgment until full payment.

It is further **ORDERED** that the Clerk enter Judgment for Petitioners consistent with this Order.

DATE: August 19, 2022

CARL J. NICHOLS
United States District Judge

[1] All amounts are USD.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

CONOCOPHILLIPS PETROZUATA B.V.,
CONOCOPHILLIPS HAMACA B.V., and
CONOCOPHILLIPS GULF OF PARIA B.V.,

Petitioners,

v.

BOLIVARIAN REPUBLIC OF
VENEZUELA,

Respondent.

Civil Action No. __________

DECLARATION OF ELLIOT FRIEDMAN

Pursuant to 28 U.S.C. § 1746, I, Elliot Friedman, declare and state as follows:

1. I am an attorney admitted to practice before this Court and a partner with the law firm Freshfields Bruckhaus Deringer US LLP, counsel for Petitioners ConocoPhillips Petrozuata B.V. ("CPZ"), ConocoPhillips Hamaca B.V. ("CPH"), and ConocoPhillips Gulf of Paria B.V. ("CGP") (collectively, "Petitioners").

2. I respectfully submit this declaration in support of Petitioners' Petition to Recognize and Enforce an ICSID Arbitration Award. This declaration is based on my personal knowledge of the matters described herein and my review of the record of the arbitration and the exhibits attached to this declaration.

3. The Petition seeks entry of judgment recognizing and enforcing an arbitral award rendered in favor of Petitioners and against the Bolivarian Republic of Venezuela ("Venezuela") following an arbitration conducted under the arbitration rules of the International Centre for Settlement of Investment Disputes ("ICSID") and pursuant to the Convention on the Settlement of Investment Disputes between States and Nationals of Other States (the "ICSID Convention"). The arbitration was captioned *ConocoPhillips Petrozuata B.V., ConocoPhillips Hamaca B.V.,*

ConocoPhillips Gulf of Paria B.V., and ConocoPhillips Company v. Bolivarian Republic of Venezuela, ICSID Case No. ARB/07/30 (the "Arbitration"). The resulting arbitration award, dated March 8, 2019 (the "Award"), awarded Petitioners damages for Venezuela's expropriation of Petitioners' investments in violation of the Netherlands-Venezuela bilateral investment treaty (the "Treaty") and international law. A true and correct copy of the Award, certified by the Secretary-General of ICSID, is attached to this Declaration as Exhibit A. True and correct copies of the relevant articles of the ICSID Convention and the ICSID Rules of Procedure for Arbitration Proceedings are attached to this Declaration as Exhibit B and Exhibit C, respectively.

4. Petitioners submitted a Request for Arbitration to ICSID on November 2, 2007, and ICSID registered the Request on December 13, 2007. *See* Ex. A, ¶ 1.

5. A three-person ICSID arbitral tribunal (the "Tribunal") was constituted on July 23, 2008 to preside over the Arbitration.

6. In 2012, Venezuela withdrew from the ICSID Convention. Venezuela did not raise any objection during the Arbitration to the Tribunal's jurisdiction based on this withdrawal.

7. On September 3, 2013, the Tribunal rendered its Decision on Jurisdiction and the Merits, finding that Venezuela had effected an expropriation of Petitioners' investments in violation of international law. A true and correct copy of the 2013 Decision on Jurisdiction and the Merits is attached to this Declaration as Exhibit D. The Tribunal also issued an Interim Decision on January 17, 2017, which re-confirmed the Tribunal's prior finding that Venezuela had unlawfully expropriated Petitioners' investments in Venezuela. A true and correct copy of the 2017 Interim Decision is attached to this Declaration as Exhibit E.

8. On March 8, 2019, the Secretary-General of ICSID dispatched the Tribunal's Award.[1] The Award incorporates by reference the Tribunal's two prior decisions. *See* Ex. A, ¶¶ 38, 43, 1009. The Tribunal awarded Petitioners monetary damages (plus pre-award interest) in the amount of US$8,733,046,155, together with post-award interest until payment is made in full, to begin accruing 60 days after the issuance of the Award. *See id.* at ¶¶ 1010(1)–(3), 1010(9). The Tribunal also ordered Venezuela to reimburse Petitioners for a portion of their legal fees and ICSID arbitration costs, in an additional amount of US$21,861,000.[2] The full value of the Award is thus US$8,754,907,155.

9. Petitioners and Venezuela participated fully in the arbitration proceedings, which lasted for more than a decade. Venezuela was actively represented in the Arbitration by the law firm Curtis, Mallet-Provost, Colt & Mosle LLP. The parties submitted over 3000 pages of written pleadings, 28 witness statements, 45 reports by damages and other experts, and nearly 2000 exhibits and legal authorities. The parties also participated in over 30 days of hearings, at which they made legal submissions and examined witnesses and experts before the Tribunal.

10. On March 11, 2019, Petitioners demanded payment on the Award from Venezuela. A true and correct copy of the letter communicating that demand (with bank account details redacted), dated March 11, 2019, is attached to this Declaration as Exhibit F.

---

[1] Although the Tribunal members signed the Award on February 27, 2019 (*see* Ex. A, p. 331), Article 49(1) of the ICSID Convention deems the Award to have been rendered on the date the Award was dispatched to the parties (*see* Ex. B, Art. 49(1)).

[2] The arbitration costs were paid through advance payments to ICSID. The unused portion of that advance is to be refunded to Petitioners by ICSID. Therefore, the total administrative costs for which Venezuela is to reimburse Petitioners will be reduced slightly. *See* Ex. A, ¶ 1010(7). Petitioners will update the Court once the amount of the refund by ICSID is known.

11. Venezuela has not satisfied the Award, and there is no stay of enforcement in effect with respect to the Award.

12. In the interest of transparency, I note that the ICSID Convention provides for certain post-award procedures that may, in certain circumstances, result in a stay of enforcement. First, either party may request interpretation of the Award by the Tribunal if there is a dispute as to the meaning or scope of the Award, and the Tribunal may, if it considers that the circumstances so require, stay enforcement of the Award pending its decision. *See* Ex. B, Art. 50. Second, either party may request a revision of the Award within 90 days of the discovery of some fact of such a nature as decisively to affect the Award, and the Tribunal may, if it considers that the circumstances so require, stay enforcement of the Award pending its decision. *See id.*, Art. 51. Finally, either party may, within 120 days after the date of the Award, apply for annulment of the Award. *See id.*, Art. 52. This period will expire on July 8, 2019. Enforcement of the Award would not be stayed automatically pending the determination of any annulment application, but it would be open to Venezuela to request a stay. If Venezuela were to do so, then enforcement of the Award would be temporarily stayed. *See id.*; Ex. C, Rule 54(1)–(2). Following the constitution of an *ad hoc* Committee to decide the annulment application, the Committee would be obliged to rule within 30 days of a request by either side on whether the stay should be lifted or continued pending the annulment proceeding. Unless the Committee were to continue the stay, it would automatically be terminated. *See* Ex. C, Rule 54(1)–(2). As of the date of this Declaration, Venezuela has not made any application for interpretation, revision, or annulment, nor any application for a stay, so far as I am aware.

13. Subsidiaries of ConocoPhillips Company, including Petitioners CPZ and CGP, also commenced two related international commercial arbitrations under the auspices of the

International Chamber of Commerce (the “ICC”). These arbitrations were based on breaches of contractual obligations owed by Venezuela’s state-owned oil company, Petróleos de Venezuela, S.A. (“PDVSA”), and several PDVSA subsidiaries to the ConocoPhillips Company entities participating in the investments. An award was rendered in the first of these ICC arbitrations in April 2018, and has been the subject of enforcement proceedings in several countries, including in the United States, where it was confirmed as a judgment in *Phillips Petroleum Co. Venezuela Ltd. et al. v. Petróleos De Venezuela, S.A. et al.*, No. 1:18-cv-03716 (S.D.N.Y. August 23, 2018), ECF No. 25 (the “ICC Award”). The second ICC arbitration is currently pending.

14. A portion of the compensation awarded in the ICSID Award (of which Petitioners now seek recognition and enforcement) overlaps with a portion of the compensation awarded in the ICC Award. *See* Ex. A, ¶¶ 961–65. Petitioners have undertaken not to seek, and will not seek, double recovery. *See id.*, ¶¶ 961, 1010(5).

15. There exists a confidential settlement agreement in respect of the ICC Award, between the subsidiaries of ConocoPhillips Company and PDVSA and its subsidiaries. *See id.* at ¶ 36. Funds have been collected pursuant to that agreement, and collection is expected to continue on a periodic basis.

16. No prior application for this or similar relief has been made to this District Court.

***

I declare under penalty of perjury that the foregoing is true and correct.

Executed on: March 11, 2019
New York, New York

By: __/s/ Elliot Friedman_____
Elliot Friedman (D.C. Bar No. NY0106)
FRESHFIELDS BRUCKHAUS DERINGER US LLP
601 Lexington Avenue
31st Floor
New York, New York 10022
Tel: 212-277-4000
Fax: 212-277-4001
elliot.friedman@freshfields.com

INTERNATIONAL CENTRE FOR SETTLEMENT OF INVESTMENT DISPUTES
WASHINGTON, D.C.

IN THE ARBITRATION PROCEEDING BETWEEN

CONOCOPHILLIPS PETROZUATA B.V.
CONOCOPHILLIPS HAMACA B.V.
CONOCOPHILLIPS GULF OF PARIA B.V.
and
CONOCOPHILLIPS COMPANY
THE CLAIMANTS

v.

BOLIVARIAN REPUBLIC OF VENEZUELA
THE RESPONDENT

ICSID Case No. ARB/07/30

AWARD

Members of the Tribunal

Mr. Eduardo Zuleta, President
Professor Andreas Bucher, Arbitrator
The Hon. L. Yves Fortier, QC, Arbitrator

SECRETARY OF THE TRIBUNAL
Messrs. Gonzalo Flores and Francisco Grob

Date of dispatch to the Parties: 8 March 2019

THE PARTIES' REPRESENTATIVES

Representing the Claimants:
Mr. Brian King
Mr. Elliot Friedman
Mr. Sam Prevatt
Mr. Lee Rovinescu
Ms. Madeline Snider
Mr. Cameron Russell
Freshfields Bruckhaus Deringer US LLP
601 Lexington Avenue, 31st Floor
New York, NY 10022
United States of America
and
Mr. Jan Paulsson
Mr. Luke Sobota
Mr. Benjamin Jones
Mr. Mihir Chattopadhyay
Three Crowns LLP
3000 K Street NW, Suite 101
Washington, D.C. 20007-5109
United States of America
and
Mr. Constantine Partasides
Mr. Gaëtan Verhoosel
Three Crowns LLP
New Fetter Place
8-10 New Fetter Lane
London EC4A 1AZ
United Kingdom

Representing the Respondent:
Dr. Reinaldo Enrique Muñoz Pedroza
Viceprocurador General de la República
Mr. Felipe Daruiz
Procuraduría General de la República
Paseo Los Ilustres c/c Av. Lazo Martí
Ed. Sede Procuraduría General de la
República, Piso 8
Urb. Santa Mónica
Caracas 1040
Venezuela
and
Mr. George Kahale, III
Mr. Benard V. Preziosi, Jr.
Mr. Fuad Zarbiyev
Ms. Arianna Sánchez
Mr. Simon Batifort
Curtis, Mallet-Prevost, Colt & Mosle LLP
101 Park Avenue
New York, NY 10178
United States of America
and
Ms. Gabriela Álvarez-Ávila
Ms. Dori Yoldi
Curtis, Mallet-Prevost, Colt & Mosle, S.C.
Rubén Darío 281, Pisos 8 & 9
Col. Bosque de Chapultepec
11580 Mexico, D.F.
Mexico
and
Mr. Fernando A. Tupa
Curtis, Mallet-Prevost, Colt & Mosle, S.C.
25 de Mayo 555 p. 1
Edificio Chacofi
C1002ABK Buenos Aires
Argentina
and
Ms. Irene Petrelli
Curtis Mallet-Prevost, Colt & Mosle LLP
3 Corso Matteotti
20121 Milano
Italy

TABLE OF CONTENTS

I. Procedural Background

1. On 2 November 2007, the Claimants submitted to the International Centre for Settlement of Investment Disputes ("ICSID" or the "Centre") a Request for Arbitration against the Bolivarian Republic of Venezuela ("Venezuela" or "the Respondent") pursuant to Article 36 of the ICSID Convention. On 13 December 2007, the Secretary-General of ICSID registered the Request for Arbitration in accordance with Article 36(3) of the ICSID Convention.

2. The Tribunal was constituted on 23 July 2008. Its members were Judge Kenneth Keith, a national of New Zealand, President, appointed by the Chairman of the ICSID Administrative Council pursuant to Article 38 of the ICSID Convention; The Hon. L. Yves Fortier, QC, a Canadian national, appointed by the Claimants; and Sir Ian Brownlie, CBE, QC, a British national, appointed by the Respondent. On 1 February 2010, the Tribunal was reconstituted, with Professor Georges Abi-Saab, an Egyptian national, being appointed by the Respondent, following Sir Ian Brownlie's passing.

3. From 31 May to 12 June 2010 a hearing took place on jurisdiction and merits, followed by two days of pleadings on 21 and 23 July 2010. On 3 September 2013, the Tribunal issued a Decision on Jurisdiction and the Merits ("the 2013 Decision"), stating in its paragraph 404 the conclusions quoted below in Section II.

4. On 8 September 2013, Counsel for the Respondent submitted a letter requesting a clarification and further explanations from the Tribunal regarding certain findings in the Decision on Jurisdiction and the Merits relating in particular to the 2013 Decision's conclusion on the negotiation on compensation that took place between the Parties (the "First Application for Reconsideration"). In its letter, Counsel for the Respondent also requested "a limited and focused hearing" to address the specific issues raised.

5. Counsel for the Claimants replied to the Respondent's letter on 10 September 2013. The Claimants opposed the Respondent's requests and proposed instead a briefing schedule for submissions on quantum.

6. Between 11 and 23 September 2013, several further letters were submitted to the Tribunal by the Parties.

7. By letter of 1 October 2013, the Tribunal fixed a schedule for the Parties to file submissions on: (i) the Tribunal's power to reconsider the 2013 Decision; and (ii) a possible scheduling for quantum briefs. The Parties duly submitted two rounds of written pleadings.

8. In its Decision of 10 March 2014, the Tribunal stated that so far as the matter set out in the Respondent's Application for Reconsideration was concerned "this decision is limited to answering the question whether the Tribunal has the power which the Respondent would have it exercise. The decision does not address the grounds the Respondent invokes for reconsidering the part of the Decision which it challenges and the evidence which it sees as supporting those grounds. The power must be shown to exist before it can be exercised"[1].

9. The Tribunal concluded that it did not have the power to reconsider the Decision on Jurisdiction and the Merits, with Professor Georges Abi-Saab dissenting. In the absence of such power it implicitly followed in the Tribunal's Decision that the Respondent's Request was dismissed.

10. Professor Georges Abi-Saab resigned on 20 February 2015 with immediate effect. On 10 August 2015 the Tribunal was reconstituted, with Professor Andreas Bucher, a Swiss national, being appointed by the Chairman of the Administrative Council.

11. On that same day, 10 August 2015, the Respondent submitted a Second Application for Reconsideration directed at the Tribunal's Decision of 10 March 2014. It requested a hearing on the application. The Respondent recalled that it had, immediately following the 2013 Decision, applied for reconsideration, pointing out

> certain obvious factual, legal and logical errors the correction of any one of which would require a change in the majority's conclusions on the issue of good faith negotiations. Of particular relevance to this [Second] Application, Respondent pointed out that cables from the U.S. Embassy released after the hearing in this case in 2010, which reported on the briefings made by the chief ConocoPhillips negotiators to the U.S. Embassy in Caracas, left no doubt that the representations made by ConocoPhillips to the Tribunal regarding Respondent's supposed unwillingness to negotiate fair market value had been completely false, and that it was in fact ConocoPhillips which was seeking compensation 'on top of the fair market value of the assets.' Since the majority had relied on Claimants' misrepresentations in reaching its conclusion on bad faith negotiation, Respondent assumed that the Tribunal would want to reconsider the Majority Merits Decision to avoid an obvious gross miscarriage of justice. That assumption was based on the premise that every tribunal has the power to correct its own decision while the case is still pending before it and should exercise that power if its decision were indeed based on patently false representations[2]. (footnote omitted)

12. On 12 August 2015, the Claimants responded in these terms:

[1] Decision of 10 March 2014 on Respondent's First Request for Reconsideration, para. 9.

[2] Respondent's Second Application for Reconsideration, pp. 2-3.

> The application is frivolous and dilatory. Venezuela has not even attempted to articulate a legal basis for the admissibility of a request to reconsider a reconsideration decision – because there is none. The Tribunal's 10 March Decision considered and rejected the same arguments that Venezuela now raises. It has *res judicata* effect and may not be revisited or reviewed in any way prior to the rendering of the final Award[3].

The Claimants requested that the Tribunal dismiss the Respondent's application forthwith and promptly reschedule the final hearing.

13. Later that same day, the Respondent commented upon the Claimants' letter. On 13 August 2015 the Claimants stated that their letter of the previous day provided a complete answer to the Respondent's points in its later letter.

14. On 15 August 2015, the Parties were advised that the Tribunal "is currently considering the Respondent's application, including its request for a hearing, and will revert to the parties in due course. The Tribunal considers that no further submissions are needed at this point"[4].

15. On 9 November 2015, the Respondent submitted a proposal to disqualify L. Yves Fortier QC as arbitrator. In terms of Rule 9(6) of the Arbitration Rules, the proceeding was suspended until 15 December 2015 when the proposal was dismissed. Two further proposals were made by the Respondent on 26 February 2016 and 22 July 2016 (Respondent's Fifth and Sixth Proposals to disqualify L. Yves Fortier), both dismissed on 15 March 2016 and 26 July 2016, respectively.

16. The Tribunal rendered its Decision on the Respondent's Second Application for Reconsideration on 9 February 2016. It explained that it had approached the matter, as have the Parties, in terms of seeking the existence and source of the power the Respondent would have it exercise. It is not a matter of finding a rule prohibiting the existence or exercise of such a power. That power has to be found to exist. The Respondent has failed to make such demonstration.

17. Accordingly, the Tribunal, by a majority, dismissed the Second Application for Reconsideration made by the Respondent for the reconsideration of its Decision on Respondent's First Request for Reconsideration of 10 March 2014, with Professor Andreas Bucher dissenting.

18. On 24 February 2016, the Tribunal held an Organizational Hearing in Washington, D.C., where several outstanding matters of procedure were discussed, including the scheduling and the agenda of the forthcoming hearings on quantum. A number of procedural issues were recorded in the Minutes and further refined in ICSID's letter of 8 June 2016.

---

[3] The Claimants' letter of 12 August 2015, p. 1.

[4] ICSID's letter of 15 August 2015, p. 2.

19. On 21 March 2016, the President of the Tribunal, Judge Kenneth J. Keith resigned as arbitrator in this case with immediate effect. On 22 April 2016 the Tribunal was reconstituted, with Mr. Eduardo Zuleta, a Colombian national, being appointed as presiding arbitrator by the Chairman of the Administrative Council.

20. On 21 March 2016, the Respondent submitted the Updated Expert Report of Vladimir Brailovsky and Daniel Flores, dated 18 March 2016. On the same date, the Claimants submitted the March 2016 Update prepared by their Experts Manuel A. Abdala and Pablo T. Spiller (Compass Lexecon).

21. On 21 April 2016, the Claimants submitted the Rebuttal Expert Report prepared by Manuel A. Abdala and Pablo T. Spiller (Compass Lexecon) and the Second Expert Report of Richard Strickland, while, on the same date, the Respondent communicated the Valuation Update Reply prepared by Vladimir Brailovsky and Daniel Flores.

22. In accordance with the conclusions of the Organizational Hearing, the Claimants submitted on 15 April 2016 additional exhibits in the record (C-623 to C-671), as did the Respondent (R-603 to R-641).

23. By letter dated 20 April 2016, the Respondent filed with the Tribunal the Third Application for Reconsideration of the Majority's Decision of 9 February 2016, containing the same request and based on the same grounds as the Respondent's two earlier Applications. The Claimants responded by letter of 21 April 2016.

24. At the Organizational Hearing of 24 February 2016, the Claimants were ordered to produce a number of documents, which the Tribunal considered were not privileged. By letter of 11 May 2016, the Tribunal decided the last remaining issue in respect of the production of documents.

25. Another decision of the Tribunal at the Organizational Hearing was to invite the Parties to comment on the issues other than quantum that they considered were still outstanding, if any. The Tribunal received submissions from the Claimants on 2 March 2016 and from the Respondent on 11 March 2016. After due deliberation, the Tribunal considered it necessary to invite the Parties, by letter dated 17 March 2016, to file an additional round of submissions, which were received from the Claimants on 15 April 2016 and from the Respondent on 15 May 2016. The Parties were invited to specifically address the Claimants' request for a declaration of breach of Article 6 of the BIT (C-2, R-13).

26. The Tribunal held a first phase of the hearing on quantum on 15-19 August 2016 in respect of the following issues: (i) the scope of the Tribunal's finding on Article 6(c) of the BIT and the outcome of the Claimants' claim for a declaration that the Respondent breached Article 6 of the

BIT; (ii) the Respondent's Third Application for Reconsideration; (iii) the *misrepresentation* allegation; (iv) the relevance of the *compensation formulas* and (v) the impact of the ongoing ICC arbitration proceedings, if any[5].

27. At the end of the hearing on 19 August 2016 and after consultation with the Parties, the Tribunal issued Procedural Order No. 4, providing in particular as follows:

> 1. The Tribunal remains seized of the Respondent's Request for Reconsideration dated April 20, 2016, and of Respondent's misrepresentation claim. The Tribunal considers that it has been fully briefed on these matters, which therefore need not be addressed further.
> 2. Pursuant to the Tribunal's order of August 17, 2016, the parties shall file with the Tribunal all documents exchanged or presentations made between them in the course of their negotiations between November 27, 2007 and September 2008, by August 31, 2016.
> 3. By September 19, 2016, the parties shall submit post-hearing briefs addressing the evidence adduced in the course of the hearing. The parties may include in their post-hearing briefs comments with respect to the documents produced pursuant to paragraph No. 2 above.

28. Procedural Order No. 4 further provided that the Parties shall proceed through joint and expeditious cooperation in establishing new and consolidated expert reports (1) on the production capacities of the Petrozuata, Hamaca and Corocoro Projects (para. 4) and (2) on the amount of damages resulting from the expropriation of the three Projects (para. 5), in each case on the basis of a jointly agreed structure of issues. In both cases, it was determined that the parties shall proceed through an initial exchange of their reports between them without copying the Tribunal and then revise the reports as necessary in order that each party may submit its final version to the Tribunal by 17 October 2016 for the reports on production capacities and by 17 November 2016 for the reports on damages.

29. Further instructions were given to the Parties by the Tribunal in Procedural Order No. 4 in respect of the substance of the expert reports on the amount of damages. The reports shall contain determinations on whether the valuation was made at the date of the expropriation, *i.e.* 26 June 2007, or on 31 December 2016, in each case taking into account, or not taking into account, the compensation formulas contained in the Association Agreements (para. 6). The final briefs on

---

[5] The hearing was recorded and a transcript established (in English and Spanish), as this had been done for the 24 February 2016 Organizational Hearing and for the hearings held on 31 May to 12 June and 21 and 23 July 2010. The same has been done in respect of all other hearings following thereafter. The Tribunal uses the condensed version of the transcripts. All transcripts have been reviewed and amended by the Parties, either directly in the (corrected) transcript or on a separate list. The numbering of days used for the February and March 2017 hearing transcripts for the Spanish version has been aligned to the numbers used for the English version. The Tribunal makes reference to the transcripts, both in English and Spanish, as they are on its record and as approved by the Parties, abstaining from amending the language for improvement or for compliance of one language version with the other. On some points both versions have to be consulted in order to reach an optimal understanding of the transcripts' respective content.

quantum were scheduled for 30 December 2016 (para. 7). The Order fixed the dates for the hearing on the second quantum phase at 21-25 February 2017 (para. 8), to which a further hearing was added by ICSID's letter of 2 September 2016 for 27-31 March 2017.

30. On 31 August 2016, the Tribunal received from each party a set of presentations that had been used in the course of the negotiations between 27 November 2007 and 8 September 2008. Most of the documents submitted by each party were identical[6].

31. The Claimants' and the Respondent's Post-Hearing Briefs were filed with the Tribunal on 19 September 2016.

32. In compliance with the procedure provided in paragraph 4 of Procedural Order No. 4 and the adjustments noted by the Tribunal's letters of 5 September and 3 October 2016, the Parties submitted consolidated expert reports on the production capacities of the three Projects on 17 October 2016 as follows: the Claimants' Expert Reports prepared respectively by Richard Strickland and by Neil K. Earnest of Muse Stancil; the Respondent's Expert Report of Jesús Rafael Patiño Murillo.

33. Following the procedure provided in paragraph 5 of the Order, the Parties submitted consolidated expert reports on the amount of damages resulting from the expropriation of the three Projects on 17 November 2016 as follows: The Claimants' Consolidated Update Report on the Damages Assessment for the Taking of ConocoPhillips' Investments in Venezuela prepared by their Experts Manuel A. Abdala and Pablo T. Spiller (Compass Lexecon), and the Respondent's Consolidated Expert Report on Valuation prepared by Vladimir Brailovsky and Daniel Flores.

34. The Claimants submitted their Final Submission on Quantum, and the Respondent its Brief on Quantum, both on 30 December 2016.

35. Pursuant to the Tribunal's invitation in its 6 May 2016 letter, the Parties communicated their submissions and valuation reports they had filed until 20 May 2016 with the ICC Tribunal (Case No. 20549/ASM), where ConocoPhillips were the claimants and PDVSA and two if its subsidiaries were the respondents. These briefs were complementary to the two Requests for Arbitration dated 10 October 2014, copies of which were communicated at an earlier date to this Tribunal (R-494, R-495). Each Party provided explanatory comments related to these proceedings by letters both dated 20 May 2016. On 16 September 2016, the Respondent filed with the Tribunal its Rejoinder submitted in the ICC proceedings on 9 September 2016. Finally, with the Claimants' agreement and as agreed by the Tribunal, the Respondent submitted on 16 December 2016 the transcript of the hearing that took place from 28 November to 10 December 2016 in the ICC Arbitration (R-

[6] The Claimants' Exhibits C-688 to C-694; Annexes 1 to 10 to the Respondent's letter dated 31 August 2016.

654). By letter to the Parties dated 19 December 2016, the Tribunal recalled that pursuant to paragraph 3 of the Minutes of the Organizational Hearing of 24 February 2016, as reiterated in its directions of 6 May, 1 July and 12 September 2016, this material has been received for information purposes only and will not, accordingly, be accorded any evidentiary value in this case. The Tribunal also informed the Parties in its letter dated 23 December 2016 that it did not grant leave for the Parties to submit documents referred to during the ICC hearing or other documents not on the record in the ICC Arbitration, or to file additional legal authorities[7].

36. The ICC Arbitral Tribunal rendered its Final Award on 24 April 2018 (20549/ASM/JPA). It was submitted to this Tribunal as an enclosure to the Claimants' letter dated 25 April 2018, which was followed by the Respondent's letter dated 26 April 2018. The Tribunal acknowledged receipt of both letters by its letter dated 27 April 2018, further stating that it understands that the filing of the ICC Award had the purpose of informing the Tribunal of the closing of the ICC Arbitration and that it has no other purpose. A further letter of the Respondent dated 1 May 2018 recalled the critical significance that the ICC Award had for this Party. The Claimants expressed their disagreement in an email the following day, recalling their understanding that in light of the Tribunal's letter of 27 April 2018 and paragraph 9 of Procedural Order No. 4, further submissions were precluded without the Tribunal's consent. By email of 3 May 2018, the Tribunal reconfirmed that the ICC Award has been submitted for the purpose of informing the Tribunal only and that the unsolicited correspondence submitted thereafter did not go beyond what had been presented to and argued before this Tribunal. Through the Claimants' letter dated 20 August 2018 and the Respondent's letter dated a day later, both enclosing news releases, from ConocoPhillips, Houston, and PDVSA, respectively, the Parties informed the Tribunal that a settlement agreement had been reached between these parties in respect of the collection of the amounts awarded by the ICC tribunal.

[7] The Respondent complained at the 2017 September Hearing that it was prevented from updating its information and allegations as per 31 December 2016 because documents and evidence it had submitted to the ICC Arbitration had not been admitted into the proceeding of this Tribunal, in particular a more recent witness statement prepared by Mr. Figuera; cf. TR-E, 2017 September Hearing, Day 17, p. 4830:14-4832:11 (Preziosi), 4832:12-4833:17 (Kahale), 4901:3-4903:19 (Preziosi). The Tribunal recalls that it explained in its 23 December 2016 letter that such late introduction of new evidence would not have been allowed according to ICSID Arbitration Rules 34 and 35, in particular because no further cross-examination (not offered by the Respondent anyhow) would have been possible. The Tribunal also noted that their way of proceeding was not intended or even contemplated at the Organizational Hearing of 24 February 2016, and this with the Parties' agreement. No request for the production of further witness statements was made by the Respondent when the draft of Procedural Order No. 4 was submitted to the Parties for the purpose of receiving their comments (cf. TR-E, 2016 August Hearing, Day 5, p. 1523:2-1534:19). Nonetheless, the Respondent filed with the Tribunal Figuera Appendices 157, 161, 162, 164, 165, 169, 171, 172, 176 as attachments to its 2017 Post-Hearing Brief. Moreover, the Respondent let its valuation experts attach to their opinion material from the ICC Arbitration, which has no evidentiary value in the present case, *i.e.* Figuera Appendices 154-172 (Brailovsky&Flores, Valuation Update Reply, 21 April 2016) and excerpts of Figuera Witness Statements together with Appendices 176 and 178 (cf. Brailovsky&Flores, Consolidated Expert Report on Valuation, 17 November 2016, footnote 2). On 10 January 2019 the Tribunal rejected the Respondent's unsolicited request dated 8 January 2019 to consider a model on data relating to the Corocoro Project that had been submitted in an ICC arbitration instituted on 30 December 2016.

II. The 2013 Decision on Jurisdiction and the Merits

37. The conclusions reached by the Tribunal's 2013 Decision read as follows:

> 404. For the foregoing reasons, the Tribunal decides as follows:
> a. It does not have jurisdiction under Article 22 of the Investment Law and accordingly the claims by ConocoPhillips Company are dismissed; and
> b. It has jurisdiction under Article 9 of the Bilateral Investment Treaty over:
> i. the claims brought by ConocoPhillips Petrozuata BV, ConocoPhillips Hamaca BV and ConocoPhillips Gulf of Paria BV in respect of (1) the increase in the income tax rate which came into effect on 1 January 2007 and (2) the expropriation or migration; and
> ii. the claims brought by ConocoPhillips Petrozuata BV and ConocoPhillips Gulf of Paria BV in respect of the increase in the extraction tax in effect from 24 May 2006.
> c. All claims based on a breach of Article 3 of the BIT are rejected.
> d. The Respondent breached its obligation to negotiate in good faith for compensation for its taking of the ConocoPhillips assets in the three projects on the basis of market value as required by Article 6(c) of the BIT.
> e. The date of valuation of the ConocoPhillips assets is the date of the Award.
> f. All other claims based on a breach of Article 6(c) of the BIT are rejected.
> g. All other questions, including those concerning the costs and expenses of the Tribunal and the costs of the parties' determination are reserved for future determination.
> Items (a), (b)(i), (b)(ii), (c), (f) and (g) above have been decided unanimously by the Tribunal. Items (d) and (e) have been decided by majority, with Arbitrator Georges Abi-Saab dissenting.

38. This 2013 Decision on Jurisdiction and the Merits is hereby incorporated by reference into this Award.

39. Since 3 September 2013, when the ConocoPhillips Company's claims were dismissed (para. 404(a)), this Company no longer participated in this proceeding. However, this Decision was never incorporated in an award. It will be made in this Award, together with an assessment of the impact of such dismissal on the allocation of legal fees and costs (Section XV). Unless otherwise stated elsewhere in this Award, the "Claimants" means the three Dutch ConocoPhillips companies.

40. The Tribunal's Majority has decided twice that it had no power to examine the Respondent's Application for Reconsideration, each time with the third arbitrator dissenting.

41. Nonetheless, the true meaning and effects of the 2013 Decision's statement in respect of the Respondent's conduct of the negotiation on compensation in paragraph 404(d) remained a matter of debate. The Tribunal felt that further clarity would be useful in relation to the obligation prohibiting expropriation by the host State as contained in Article 6 of the BIT, and in relation to the assessment of the Claimants' claim for damages. Further procedural developments, and

particularly the August 2016 Hearing, had the effect of providing a broader view on the negotiations that actually took place between the Parties, including in the period between November 2007 and September 2008, which the Tribunal was not able to evaluate in the prior proceeding that was concluded with the 2013 Decision. Furthermore, the Respondent submitted a claim based on alleged misrepresentations made by the Claimants to the Tribunal. Therefore, the Tribunal decided that the Respondent's Third Application for Reconsideration and the misrepresentation allegation would both be addressed at the August 2016 Hearing. Both matters were dealt with in the Tribunal's Interim Decision dated 17 January 2017.

III. The 2017 Interim Decision

42. The conclusions reached by the Tribunal in its Interim Decision read as follows:

> 1. The Respondent's Third Application for Reconsideration is dismissed.
> 2. The Respondent's claim based on the Claimants' alleged misrepresentations to the Tribunal is dismissed.
> 3. The Tribunal declares that Venezuela has breached Article 6 of the BIT by unlawfully expropriating the Claimants' investments in the three Projects in the Orinoco Belt in Venezuela.

43. This Interim Decision is hereby incorporated by reference into this Award.

44. In sum, the Tribunal explained that the true meaning of the 2013 Decision's finding in respect of the negotiation on compensation was that the Respondent failed to be involved in negotiations leading to an offer complying with the requirements of "just compensation" and "market value". The Tribunal did not find a lack of good faith on the part of the Respondent for its breach of an obligation to negotiate on the basis of market value as required by Article 6(c) of the BIT (paras. 39-62). The Tribunal concluded that until the filing of the Claimants' Request for Arbitration and thereafter, the Respondent did not envisage, conduct or propose to ConocoPhillips a market valuation as required by Article 6(c) of the BIT (paras. 63-131). The Tribunal also decided that the Respondent's claim based on the Claimants' alleged misrepresentations must fail in light of the Respondent's failure to demonstrate that relevant information had been unduly retained by the Claimants or that they presented evidence that was either forged or otherwise misleading (paras. 67-69, 80, 93, 132-136).

45. In its 2017 Interim Decision (para. 137), the Tribunal recalled that it had concluded in its 2013 Decision that the Respondent committed a breach of Article 6(c) of the BIT by not respecting its obligation to negotiate in good faith on the basis of market value for the compensation to be provided to the Claimants for the taking of its assets (para. 404d). The Tribunal explained that the obligation implicitly referred to in Article 6(c) is one of the three pertinent requirements which

must be complied with by the host State if it proceeds to expropriate or nationalize the investor's investment. Beyond this function, it has no legal autonomy. Indeed, a breach of an obligation contained in Article 6(c), as stated in the 2013 Decision, does not have the effect of providing the aggrieved party with a claim for damages based on such breach. The legal effect of such breach appears exclusively in the overall context of Article 6, because the non-compliance with the requirements of letter (c) means that the measures taken by the host State do not comply with the conditions set out in this provision.

46. If and to the extent that the requirements of Article 6(c) have not been complied with, one of the three cumulative conditions set out in Article 6 has not been fulfilled, and the effect is that Article 6 has been breached. The Tribunal recalled in its 2017 Interim Decision (para. 147) that the 2013 Decision noted that the requirement of compensation was one of the necessary conditions for an expropriation to be "lawful" (paras. 334, 343, 401). Using the same logic, the finding that one of these conditions has not been met must be understood as having the effect of rendering the expropriation in June 2007 unlawful.

47. When rendering its Interim Decision, the Tribunal decided to rule explicitly on this matter (para. 148). It noted (para. 150) that the Tribunal's record reveals that the first two requirements of Article 6 have been met. An expropriation or nationalization requires a "taking" to be operated by the authorities of the host State. Such taking may cover rights other than rights *in rem*, as confirmed by Article 6 which refers to the broad concept of "investments". In the present case, such taking became effective on 26 June 2007, when ConocoPhillips' assets were definitively taken over by Venezuela and by PDVSA's or its subsidiaries' employees. This taking did not extend to the assets exclusively. It meant that Venezuela assumed directly the activities performed by the Associations and it extinguished ConocoPhillips' ownership interests[8]. It necessarily included the rights contained and held by ConocoPhillips through the Association Agreements and all other contractual undertakings relating to the three Projects. As Witness Mommer recalled, at that date, the Association Agreements were terminated[9].

48. There is no dispute about the fact that the measures enforced on 26 June 2007 have not been taken against "just compensation" as required by Article 6(c). In fact, no compensation has been paid at all. As the Interim Decision also explains (para. 153), the negotiations that took place before the taking over of ConocoPhillips's assets and interests were conducted by Venezuela on the basis of a model representing a migration into *empresas mixtas*, based on an amount of compensation that had nothing to do with a compensation representing market values covering the loss of profits that were to be earned by ConocoPhillips' companies until the end of the lifetime of the Projects.

---

[8] Witness Mommer, TR-E, 2016 August Hearing, Day 3, p. 993:8-994:17.

[9] The Witness used the term "disappear" (TR-E, 2010 Hearing, Day 7, p. 1838:16-17), further explaining that the assets were taken over (TR-E, 2010 Hearing, Day 7, p. 1716:14-15, 1854:12-13).

When the negotiations took place in parallel with the arbitration proceeding, Venezuela never made a concrete proposal. The evidence before the Tribunal demonstrates with stringent clarity that no offer was ever made by Venezuela in order to put a positive end to the negotiation.

49. All the reasons given in the 2017 Interim Decision (paras. 137-155) and briefly repeated here support the Tribunal's conclusion that the Respondent had breached Article 6 of the BIT.

IV. The Final Phase on Quantum

50. Shortly after rendering its Interim Decision on 17 January 2017, the Tribunal continued with the final phase of this proceeding, relating to quantum.

51. The Tribunal held its hearing on the second quantum phase in Washington, D.C. in two parts, the first from 21 to 25 February 2017, and the second from 27 to 31 March 2017. Present at these two sessions were (except where stated otherwise):

<u>Members of the Tribunal</u>

Dr. Eduardo Zuleta, President
The Hon. L. Yves Fortier, QC, Co-Arbitrator
Professor Andreas Bucher, Co-Arbitrator

<u>ICSID Secretariat</u>

Mr. Gonzalo Flores, Secretary of the Tribunal
Mr. Francisco Grob, Secretary of the Tribunal

<u>For the Claimants</u>

Mr. Jan Paulsson, Three Crowns LLP
Mr. Constantine Partasides, QC, Three Crowns LLP (only March)
Mr. Josh Simmons, Three Crowns LLP
Mr. Ben Jones, Three Crowns LLP
Ms. Kelly Renehan, Three Crowns LLP
Mr. D. Brian King, Freshfields Bruckhaus Deringer US LLP
Mr. Elliot Friedman, Freshfields Bruckhaus Deringer US LLP
Mr. Sam Prevatt, Freshfields Bruckhaus Deringer US LLP
Mr. Lee Rovinescu, Freshfields Bruckhaus Deringer US LLP
Ms. Madeline Snider, Freshfields Bruckhaus Deringer US LLP
Mr. Cameron Russell, Freshfields Bruckhaus Deringer US LLP
Mr. Aaron Kates Rose, Freshfields Bruckhaus Deringer US LLP
Mr. Israel Guerrero, Freshfields Bruckhaus Deringer US LLP
Mr. Breanna Weber, Freshfields Bruckhaus Deringer US LLP

Ms. Cassia Cheung, Freshfields Bruckhaus Deringer US LLP
Mr. Iain McGrath, Freshfields Bruckhaus Deringer US LLP

Ms. Jannet Carrig, ConocoPhillips
Ms. Laura Robertson, ConocoPhillips
Ms. Suzana Blades, ConocoPhillips
Mr. Alberto Ravell, ConocoPhillips
Ms. Michele Lipscomb, ConocoPhillips (only March)

For the Respondent

Mr. George Kahale, III, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Benard V. Preziosi, Curtis, Mallet-Prevost, Colt & Mosle LLP
Professor Tullio Treves, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Dori Yoldi, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Arianna Sánchez, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Simon Batifort, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Irene Petrelli, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Matilde Flores, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Farshad Zahedinia, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Sofia Herrera, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Steven Richardson, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Gloria Diaz-Bujan, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Herbert Tapia, Curtis, Mallet-Prevost, Colt & Mosle LLP

Dr. Reinaldo Muñoz, Attorney General, Bolivarian Republic of Venezuela (only March)
Dr. Bernard Mommer, Bolivarian Republic of Venezuela
Ms. Irama Mommer, Bolivarian Republic of Venezuela
Dr. Alvaro Silva Calderon, Bolivarian Republic of Venezuela
Dr. Joaquin Parra, Bolivarian Republic of Venezuela
Dr. A. Vanessa Gonzalez Anton, Bolivarian Republic of Venezuela
Dr. José Gabriel Oroño, Bolivarian Republic of Venezuela
Dr. Alejandro Schmilinsky, Bolivarian Republic of Venezuela
Dr. Edoardo Orsoni, Bolivarian Republic of Venezuela

52. At the February hearing, the following Witnesses and Experts were heard and cross-examined:

Dr. Manuel A. Abdala and Professor Pablo T. Spiller, presented by the Claimants
Mr. Vladimir Brailowsky and Dr. Daniel Flores, presented by the Respondent
Mr. Albert Roy Lyons, presented by the Claimants
Mr. Rubén Figuera, presented by the Respondent
Mr. Jesús Rafael Patiño Murillo, presented by the Respondent
Dr. Richard F. Strickland, presented by the Claimants
Mr. Neil K. Earnest, presented by the Claimants
Mr. David Andrew Brown, presented by the Claimants

Mr. Leonardo Marcano, presented by the Respondent

Following an exchange of views between the Parties, the Tribunal decided that Mr. Virgil Chamberlain, a witness presented by the Claimants, would not appear at the February hearing.

At the March hearing, Witnesses Lyons and Figuera were examined again, followed by the quantum Experts, Dr. Abdala and Professor Spiller for the Claimants, and Mr. Brailovsky and Dr. Flores for the Respondent.

53. Shortly before the March hearing, on 20 March, the Parties provided the Tribunal, upon its request, with tables for each of the Hamaca and Petrozuata Projects containing accumulated annual production figures, listed year by year, of Extra Heavy Crude Oil (EHCO), Commercial Crude Oil (CCO), and blends, for each of the following periods: (i) commencement of the corresponding Project until 26 June 2007; (ii) June 2007 until 31 December 2016; and (iii) 1 January 2017 until the expiration of term of the corresponding Association Agreement. A similar request related to the Corocoro Project, but without any division depending on the quality of the oil. For all three Projects, the tables also contained information in respect of the Operating Expenses (OPEX) and Capital Expenditures (CAPEX) affecting the aforesaid production figures for the same periods, as well as for taxes relating to the production. The Parties were further invited to explain the operation of a windfall tax and the impact, if any, of applying the compensation provisions, assuming that such tax had applied as from 15 April 2008, the rate that would have applied for each year. In parallel to the Respondent's Assessment of Production the Claimants also submitted a set of tables relating to oil production, costs and taxes in respect of each of the Projects.

54. At the end of the March hearing, upon the invitation of the Tribunal, the Respondent submitted a hardcopy of the invoices of CCO sold during the years 2009 to 2015, together with monthly lists of the quantities of oil sold and loaded on vessels for the purpose of exportation. Complementary tables summarizing the pertinent figures relating to production, costs and taxes were also provided. An exchange of views took place at the hearing in order to assist the Tribunal in understanding this voluminous documentation[10].

55. By letters dated 4 and 12 April 2017, the Tribunal directed the valuation experts to confer with the aim of narrowing the gaps between their respective positions related to discount rates, in general, and country risk, in particular. By letter dated 25 April 2017, the Claimants informed the Tribunal that the experts had conferred but were unable to narrow the gap between their respective views.

[10] Cf. TR-E, 2017 March Hearing, Day 14, p. 4258:8-4297:22.

56. By letters dated 27 April and 3 May 2017, the Tribunal requested the Parties to submit by 29 May 2017 a jointly prepared assessment, supported by their respective experts, of the actual production of the Projects (July 2007 to 31 December 2016), together with an assessment of the associated costs. The Tribunal also noted in its 27 April letter that the hearings held in February and March 2017 had clearly demonstrated that the experts had made various assumptions and assertions that were either wrong, not cross referenced to evidence on the record, or simply not supported by sufficient evidence. The Tribunal therefore requested the Parties in these two letters to continue instructing their experts to jointly work towards results elaborated on the basis of constructive cooperation. It also requested the Parties in its 27 April letter to provide the Tribunal by 19 May 2017 with an additional expert report by its respective experts on the country risk specifically associated with each Project. The deadline fixed on 19 May 2017 was subsequently extended at 26 May (letter dated 18 May 2017) and later to 2 June 2017 (letter dated 25 May 2017).

57. On 19 May 2017, the Claimants and the Respondent each submitted their Post-Hearing Briefs following the February and March hearings. The additional reports requested from the experts were provided on the same date.

58. On 2 June 2017, the Parties submitted two sets of documents containing (1) an Assessment of Production reported by the Respondent for the three Projects, commented by the Respondent and the Claimants, and (2) the Respondent's Estimated *Ex Post* Capital Expenditures (CAPEX) and Operating Expenses (OPEX) for each Project, also commented by the Respondent and the Claimants (referred to below as "Cost Estimations").

59. By letters dated 8 and 14 June 2017, the Tribunal submitted to the Parties a list of questions. The Parties' answers were received on 10 July 2017, followed by rebuttal comments from each side on 31 July 2017. Upon the Tribunal's request, the Respondent submitted an English translation of Annexes 8 to 10 filed in relation to Appendix 76 of Mr. Figuera's Testimony, on 11 September 2017. Thereafter, the Tribunal invited the Parties on 13 September 2017 to prepare responses to be submitted at the forthcoming hearing on a number of supplementary questions.

60. The Tribunal held its final hearing in Washington, D.C. on 19 to 21 September 2017. It dealt with the examination of the Parties' answers to the Tribunal's questions and with the submission of further clarifications. On the last day, the Parties made their closing statements. Present at this hearing were:

<u>Members of the Tribunal</u>

Dr. Eduardo Zuleta, President
The Hon. L. Yves Fortier, QC, Co-Arbitrator
Professor Andreas Bucher, Co-Arbitrator

ICSID Secretariat

Mr. Gonzalo Flores, Secretary of the Tribunal
Mr. Francisco Grob, Secretary of the Tribunal
For the Claimants

Mr. Jan Paulsson, Three Crowns LLP
Mr. Constantine Partasides, QC, Three Crowns LLP
Mr. Josh Simmons, Three Crowns LLP
Mr. Luke Sobota, Three Crowns LLP
Mr. Hugh Carlson, Three Crowns LLP
Mr. D. Brian King, Freshfields Bruckhaus Deringer US LLP
Mr. Elliot Friedman, Freshfields Bruckhaus Deringer US LLP
Mr. Sam Prevatt, Freshfields Bruckhaus Deringer US LLP
Mr. Lee Rovinescu, Freshfields Bruckhaus Deringer US LLP
Ms. Madeline Snider, Freshfields Bruckhaus Deringer US LLP
Mr. Cameron Russell, Freshfields Bruckhaus Deringer US LLP
Mr. Israel Guerrero, Freshfields Bruckhaus Deringer US LLP
Mr. Breanna Weber, Freshfields Bruckhaus Deringer US LLP
Ms. Cassia Cheung, Freshfields Bruckhaus Deringer US LLP
Mr. Iain McGrath, Freshfields Bruckhaus Deringer US LLP

Ms. Jannet Carrig, ConocoPhillips
Ms. Laura Robertson, ConocoPhillips
Ms. Suzana Blades, ConocoPhillips
Mr. Alberto Ravell, ConocoPhillips

For the Respondent

Mr. George Kahale, III, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Benard V. Preziosi, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Arianna Sánchez, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Simon Batifort, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Irene Petrelli, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Matilde Flores, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Farshad Zahedinia, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Sofia Herrera, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Steven Richardson, Curtis, Mallet-Prevost, Colt & Mosle LLP
Ms. Gloria Diaz-Bujan, Curtis, Mallet-Prevost, Colt & Mosle LLP
Mr. Joseph Giberti, Curtis, Mallet-Prevost, Colt & Mosle LLP

Dr. Reinaldo Muñoz, Attorney General, Bolivarian Republic of Venezuela
Dr. Bernard Mommer, Bolivarian Republic of Venezuela
Ms. Irama Mommer, Bolivarian Republic of Venezuela
Dr. Alvaro Silva Calderon, Bolivarian Republic of Venezuela
Dr. Joaquin Parra, Bolivarian Republic of Venezuela

Dr. José Gabriel Oroño, Bolivarian Republic of Venezuela
Dr. Alejandro Schmilinsky, Bolivarian Republic of Venezuela
Dra. Marianna Zerpa, Bolivarian Republic of Venezuela

61. On 19 September 2017, in response to a request made by the Tribunal, the Respondent submitted two lists, one for the Petrozuata and the other for the Hamaca Project, containing information about the actual CCO sales from 2009 through 2015 including the relevant quantities of barrels sold and also containing the corresponding prices in US$ as they were actually invoiced.

62. In the course of the debate before the Tribunal, the Parties prepared jointly lists of prices for CCO per year in relation to the Petrozuata and Hamaca Projects, indicating a number of figures shared in common and a number of other prices where the respective positions differ. The information thus provided will be used below in Section VIII on Prices.

63. In the course of this proceeding, the Parties have filed a myriad of submissions and a great number of exhibits. The Tribunal does not enumerate all of these submissions, sometimes presented in a letter format. It recalls the main memorials and briefs it has received, complemented, where appropriate, by their short-title.

The Claimants

Claimants' Memorial, 15 September 2008 – Claimants' Memorial
Claimants' Reply, 2 November 2009 – Claimants' Reply
Claimants' Memorial on Quantum, 19 May 2014 – Claimants' Memorial on Quantum
Claimants' Reply on Quantum, 13 October 2014 – Claimants' Reply on Quantum
Claimants' Post-Hearing Submission, 19 September 2016 – Claimants' 2016 Post-Hearing Brief
Claimants' Final Submission on Quantum, 30 December 2016
– Claimants' Final Submission on Quantum
Claimants' Post-Hearing Brief, 19 May 2017 – Claimants' 2017 Post-Hearing Brief
Claimants' Initial Replies to the Tribunal's Questions, 10 July 2017
– Claimants' Replies of 10 July 2017
Claimants' Supplemental Comments on the Tribunal's Questions, 31 July 2017
– Claimants' Comments of 31 July 2017

The Respondent

Counter-Memorial of the Bolivarian Republic of Venezuela, 27 July 2009
– Venezuela's Counter-Memorial
Rejoinder of the Bolivarian Republic of Venezuela, 1 February 2010
– Venezuela's Rejoinder
Respondent's Counter-Memorial on Quantum, 18 August 2014

– Respondent's Counter-Memorial on Quantum
Respondent's Rejoinder on Quantum, 7 January 2015 – Respondent's Rejoinder on Quantum
Respondent's Post-Hearing Brief, 19 September 2016 – Respondent's 2016 Post-Hearing Brief
Respondent's Brief on Quantum Pursuant to Procedural Order No. 4, 30 December 2016
– Respondent's Final Brief on Quantum
Respondent's Post-Hearing Brief, 19 May 2017 – Respondent's 2017 Post-Hearing Brief
Respondent's Answers and Observations to the Questions Posed by the Tribunal in its Letters of June 8 and 14, 2017, 10 July 2017 – Respondent's Answers of 10 July 2017
Respondent's Reply to Claimants' Responses to the Tribunal's Questions, 31 July 2017
– Respondent's Reply of 31 July 2017

64. The Tribunal has received a great number of witness statements, many of them prepared by Mr. Albert Roy Lyons, presented by the Claimants, and Mr. Rubén Figuera, presented by the Respondent. These statements may be listed as follows:

<u>Mr. Lyons</u>

Witness Statement – 10 September 2008
Second Witness Statement – 30 October 2009
Rebuttal [3rd] Witness Statement – 14 April 2010
Fourth Witness Statement – 16 May 2014
Fifth Witness Statement – 13 October 2014

<u>Mr. Figuera</u>

Direct Testimony – 20 July 2009
Supplemental Direct Testimony – 26 January 2010
Second Supplemental Direct Testimony – 17 May 2010
Third Supplemental Direct Testimony – 15 August 2014
Fourth Supplemental Direct Testimony – 7 January 2015
(For the purposes of this Award, the term "Direct" will not be used.)

All other witness statements will be mentioned where appropriate.

65. In respect of the contributions of Mr. Lyons and Mr. Figuera, which are of particular relevance to the quantum phase, the Tribunal notes at the outset that their views do not in all cases reflect direct personal knowledge relating to the conduct and operation of the Projects, given the fact that they were exercising responsibilities only during a part of the period when the facts relevant to the matter to be examined by the Tribunal occurred.

66. The Tribunal has also received a great number of reports prepared by the Parties' respective experts.

67. Some of these reports were focusing on issues related to production (upstream, on-stream, and downstream) and on a number of technical items. The main expertise in this category was authored by Mr. Jesús Rafael Patiño Murillo, presented by the Respondent; the reports submitted by this expert are the following:

Expert Report – 18 August 2014
Second Expert Report – 7 January 2015
Consolidated Expert Report – 17 October 2016

The reports provided by Mr. Patiño have been reviewed and addressed by two of the Claimants' experts. Dr. Richard F. Strickland submitted three reports:

Expert Report – 13 October 2014
Second Expert Report – 21 April 2016
Consolidated Expert Report – 17 October 2016

Mr. Neil K. Earnest (Muse, Stancil & Co.) provided the following reports:

Technical Assessment of the Hamaca and Petrozuata Upgrader Performance – 13 October 2014
Consolidated Expert Report – 17 October 2016

68. A second category of experts' reports relates to the calculation of oil production and of the damages in dispute, both items being covered by the term "valuation".

For the Claimants, a series of reports have been submitted by Dr. Manuel A. Abdala and Professor Pablo T. Spiller, Directors of former LECG, LLC, today Compass Lexecon. They are:

Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008
Second Valuation Report of ConocoPhillips' Investments in Venezuela, 2 November 2009
Rebuttal Report to Respondent's Experts' Second Reports, 15 April 2010[11]
Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014
Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014
March 2016 Update, 18 March 2016
Rebuttal Report, 21 April 2016

[11] The first three of these reports had also as author Mr. José Alberro.

Consolidated Update Report, 17 November 2016
Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017

For the Respondent, an equally important number of reports have been presented by Mr. Vladimir Brailovsky and Dr. Daniel Flores. They are:

Expert Report on the Discount Rate to be Applied to Projected Cashflows, 24 July 2009
Second Expert Report on the Discount Rate to be Applied to Projected Cash Flows, 1 February 2010
Reply to LECG's Rebuttal to Second Discount Rate Report, 17 May 2010[12]
Expert Report on Valuation, 18 August 2014
Expert Report on the Theoretical and Historical Foundations of the Compensation Provisions, 18 August 2014
Second Expert Report on Valuation, 7 January 2015
Valuation Update, 18 March 2016
Valuation Update Reply, 21 April 2016
Consolidated Expert Report on Valuation, 17 November 2016
Additional Expert Report on Country Risk in Discount Rate, 19 May 2017

All other expert reports filed with the Tribunal will be mentioned where appropriate.

69. Upon request, the Parties have filed their submissions on Costs on 16 April 2018, which were followed by the Claimants' rebuttal dated 3 May 2018 and two letters in reply from the Respondent, dated 18 April and 3 May 2018. The Claimants submitted an update by letter dated 17 September 2018.

70. The Tribunal declared the proceeding closed on 8 February 2019.

V. The Applicable Law Governing Remedy

71. The natural remedy for the Claimants' compensation of their damages suffered as a consequence of an expropriation of the three Projects is to be found in the BIT or in the applicable law to which this Treaty refers. Article 9 of the BIT is therefore the first source of law to be considered (A). In relation to the Petrozuata and Hamaca Projects, great emphasis has been put, since the beginning of this proceeding, on the alleged relevance of the compensation provisions contained in the respective Association Agreements. The potential impact of these provisions as remedies for

[12] These first three reports have been prepared by Mr. Brailovsky and Professor Louis T. Wells.

the Projects' expropriation needs to be clarified (B). Finally, the Tribunal must determine whether the standard of compensation is contained in the BIT, and in Article 6(c) in particular, or whether general or customary international law is to be applied (C).

A. Article 9 of the BIT

72. At the outset of this analysis, two provisions of Article 9 of the BIT have to be examined more closely. The first one is paragraph 3 on the possible scope *ratione materiae* of a Tribunal's award on the merits. This provision reads as follows:

> 3. The arbitral award shall be limited to determining whether there is a breach by the Contracting Party concerned of its obligations under this Agreement, whether such breach of obligations has caused damages to the national concerned, and, if such is the case, the amount of compensation.

73. The second one is the last part of Article 9, paragraph 5:

> 5. The arbitral award shall be based on:
> - the law of the Contracting Party concerned;
> - the provisions of this Agreement and other relevant Agreements between the Contracting Parties;
> - the provisions of special agreements relating to the investments;
> - the general principles of international law;
> - such rules of law as may be agreed by the parties to the dispute.

1. The Claimants' Position

74. The Claimants submit that under Article 9(5) of the BIT, only customary international law governs the consequences of Venezuela's illegal expropriation, requiring full reparation. On the other hand, Venezuela contends that any award in this case must take into account Venezuelan law, including the terms and conditions of the special agreements relating to the Projects and their compensation provisions. Venezuela so argues on the basis of Article 9(5) of the BIT. Venezuela avers that the Claimants have "simply ignored" Venezuelan law.

75. The Claimants explain that Article 9(5) does no more than confirm that the Tribunal must consider different sets of rules for different sets of issues in dispute. This provision is not an express choice-of-law clause; its reference to domestic law cannot be construed as requiring its application to the determination of every issue that arises before the Tribunal.

76. Venezuela's invocation of "the law of the Contracting Party concerned" is therefore misplaced, because the issue for determination in this quantum phase must be adjudicated solely in

accordance with international law. State responsibility entails a secondary obligation of full reparation. This principle was codified in Article 32 of the ILC Articles.

77. The authorities referred to by Venezuela in its Counter-Memorial on Quantum are of no moment here. The only relevant question is whether Venezuela may be allowed to rely on its own domestic law, to reduce its responsibility under international law. In sum, the authorities cited by Venezuela contradict its allegation that the consequences following Venezuela's Treaty breach should be determined by reference to domestic law instruments such as the Congressional Authorizations.

78. The *Mobil* Tribunal had no difficulty in rejecting the same argument on the basis of the same Treaty provision[13]. It stated that a party may not invoke its internal law as justification for its failure to perform a treaty. International obligations cannot be discarded on the grounds of national law. The *Mobil* Tribunal had no doubt that the Award must be governed by international law. Consequently, the Eighteenth and Twentieth Conditions cannot exempt or excuse the Respondent from its obligations under the Treaty or under customary international law. Bearing this in mind, the *Mobil* Tribunal considered the effect of the Eighteenth and Twentieth Conditions of the Cerro Negro Framework Conditions in the section on quantum.

79. In addition, the Association Agreements do not even come within the terms of Article 9(5). For a domestic law contract potentially to affect the international law rights of investors, it is axiomatic that the contract must be between those same investors and that same respondent State. It stands to reason that the contracts on which the Tribunal can "base" its award under Article 9(5) must also be between the State and the investor. In sum, customary international law governs quantum in this case, and Venezuela's invocation of Article 9(5) of the Treaty does nothing to change that.

2. The Respondent's Position

80. The Respondent submits that the Congressional Authorizations and the Association Agreements are to be taken into account and given effect in determining quantum under Article 9(5) of the BIT, which refers to the law of the Contracting Party concerned and the provisions of special agreements relating to the investment.

81. The Claimants argue that because the issue is full reparation, the only relevant law is international law. This argument is nothing more than an invitation to the Tribunal to ignore the

[13] *Venezuela Holdings, B.V., Mobil Cerro Negro Holdings, Ltd., et al. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/27, Award of 9 October 2014 (CL-348). On this point, the Claimants refer to paras. 224 and 225 of the Award (Claimants' Reply on Quantum, para. 39). These paragraphs, among others, have been annulled by the Decision on Annulment, dated 9 March 2017, para. 196(3) (R-658).

applicable law provisions of the Treaty. The Claimants seem to be under the mistaken impression that international law can be applied in the abstract without consideration of national law. The Treaty calls for compensation based on fair market value, but fair market value is not a concept divorced from the underlying rights being valued, which themselves cannot be separated from whatever limitations may be attached to them. The concept of reparation is not independent of the terms and conditions applicable to the specific investments at issue.

82. The Respondent also notes that Article 9(3) of the BIT prevents this Tribunal from awarding damages beyond those caused by a breach of the BIT. In the case of a failure to pay the required compensation, the only damage is the amount of compensation due as of the date of expropriation, plus interest.

83. In other words, giving effect to the governing law provisions of Article 9(5) of the Dutch Treaty and applying the compensation mechanisms is not only a requirement of the Dutch Treaty itself, but is consistent with, and an integral part of, the international law analysis that the Claimants want this Tribunal to apply pursuant to the *Chorzów* decision. It is worth noting that it is universally recognized that the nature and scope of property rights are defined by local law, not international law. The issue here is not whether the consequences of an internationally wrongful act should be determined by international or national law. It is the scope of rights that the Claimants had. That is determined by national law, in this case starting with the Congressional Authorizations. The Claimants cannot circumvent the terms and conditions upon which they were permitted to invest in Venezuela. They must be given effect and they determine the basis of compensation.

84. The Claimants further invoke the well-known principle that a State may not use its internal law to extricate itself from an international responsibility. It is one of the principles the Claimants invoke which has nothing to do with the facts of the case. This is not a case in which the Respondent is relying upon subsequently enacted legislation as a defense to an international law claim. Rather, the Respondent is relying upon the terms and conditions established at the outset of the upgrading Projects pursuant to the Congressional Authorizations, which set forth the terms and conditions under which the Claimants would be entitled to invest in Venezuela. The issue can be stated as follows: if the terms and conditions of an investment are that the State would be entitled to capture, for instance, windfall profits through taxation, can the principle that a State may not use its internal law to extricate itself from international responsibility apply to prevent the State from exercising that right when the windfall profits subsequently materialize? The answer must be "no". Yet that is what the Claimants try to do. They have not been able to refute any part of the extensive documentary record establishing the State's ability as owner of the resource to obtain the benefit of exceptional profits.

3. The Tribunal's Findings

85. The Tribunal notes that the wording and the list set out in paragraph 5 of Article 9 of the BIT do not establish any order of priority among the five sources of law that are mentioned. The provision contains an enumeration, without any hierarchy. When considered as a rule on the applicable law, or on conflicts of law, the rule has its own limitations: it determines the possible applicable sources of law, but it does not determine which one is applicable in a particular context that is relevant for rendering the award.

86. One of the effects of this characteristic of Article 9(5) of the BIT is that the potential scope of application of one or another of the enumerated sources of law, for itself or in comparison to the others, has to be determined by reference to the scope of application of each one of these sources. Article 9(5) does not provide an answer to this question.

87. Article 42(1) of the ICSID Convention is in harmony with such understanding. Pursuant to this provision, the Tribunal shall decide a dispute "in accordance with such rules of law as may be agreed by the parties". Article 9(5) of the BIT constitutes such an agreement. The BIT is also in harmony with the second part of Article 42(1) of the ICSID Convention, stating that in the absence of an agreement on the choice of applicable rules of law, the Tribunal shall apply the law of the host State "and such rules of international law as may be applicable." The ICSID Convention does not provide for any restriction in respect of these "applicable rules of international law"; they necessarily include all such rules which according to their self-determined scope of application cover the legal issue arising in a particular case.

88. One important factor of hierarchy is the principle that international law must prevail over domestic law, and that a State may not invoke its internal law to extract itself from an international law obligation. As a matter of principle, this is not disputed between the Parties, nor is there any controversy that such principle results from the international law itself and not from Article 9(5) of the BIT.

89. This principle of priority of international law over domestic law has its own limitations. International law does not prevail over national law in a matter not governed by international law, in which case national law may apply, in accordance with Article 9(5) of the BIT. The much-debated issue of the relevance of the compensation provisions of the Petrozuata and Hamaca Association Agreements goes to the heart of this question. Are these provisions capable of governing the effects of an expropriation of the participants' assets held in the Projects? Or are these provisions relevant to the determination of the assets subject to such an expropriation when considered in the framework of Article 6 of the BIT? These questions, together with others, will be examined more closely below.

90. The Tribunal also observes that Article 9(3) of the BIT does not support the Respondent's interpretation that no damages other than those provided by the Treaty can be awarded. This provision states that the Tribunal's award shall not determine breach beyond the "obligations under this Agreement". Thus, while the range of obligations to be taken into account is limited by the content of the BIT, such limitation is not attached to the terms of "damages" and "amount of compensation" contained in the same provision.

91. The Tribunal also notes that the BIT has to be interpreted in light of the rules set out in the Vienna Convention of the Law of Treaties of 23 May 1969. Article 31 § 3(c) of this Treaty indicates that account is to be taken of "any relevant rules of international law applicable in the relations between the parties". The Tribunal must certainly be mindful of the BIT's special purpose as a Treaty promoting foreign investments, but it cannot apply the BIT in a vacuum, without taking the relevant rules of international law into account. Article 9(5) of the BIT has to be construed in harmony with such rules.

B. The Compensation Provisions of the Association Agreements

92. Captured in very summary terms, the debate between the Parties centers on whether the Association Agreements, relating, respectively, to the Petrozuata (C-21) and the Hamaca (C-22) Projects, are based on the implicit but nevertheless fundamental principle that the host State's ability to capture extraordinary profits must be preserved and whether in this respect the investors do not have an assurance that their revenue will never be affected. The marked difference with older State contracts in the field of petroleum extraction is that these Agreements do not contain a so called "stabilization" clause whereby the State accepts not to interfere with the legal and economic characteristics of the contract.

93. The compensation provisions contained in each of the Association Agreements represent a substitute for the full preservation of the host State's rights and policies[14]. In sum, these provisions provide that in case a "Discriminatory Action" ("DA") is taken by the State that causes a significant loss to the foreign investors, compensation must be provided to them. This compensation, however, is not due by the State, but by PDVSA or its relevant subsidiary, a company under the State's control. The amount of the compensation is calculated on the basis of a complex formula, which under the prevailing oil prices resulted in a sum of approximately 25 US$ or 27 US$ per barrel, respectively. The payment was to be made through the regular terms of provision of dividends to the shareholders. The Hamaca Association Agreement contains an additional layer in providing for a "buy-out" in case the parties cannot agree on whether a discriminatory action has occurred or the amendments to be agreed upon (Art. 14.4). Since the very beginning of this proceeding, the Parties have been deeply divided in their respective understanding of the content and effects of these

[14] Articles 9.07 for Petrozuata (C-21, R-22) and 14 for Hamaca (C-22, R-26).

compensation provisions (also called "Discriminatory Action provisions" or "DA provisions") in the present case, and this in particular in respect of their application to the consequences of an expropriation governed by the BIT.

1. The Claimants' Position

94. The Claimants object to Venezuela's main line of argument that the Discriminatory Action provisions in the Petrozuata and Hamaca Association Agreements somehow limit the compensation resulting from Venezuela's liability under international law for its expropriation of these Projects, although Venezuela was not a party to these Agreements.

95. The Claimants submit that domestic law is irrelevant to the standard of compensation for a violation of international law. Article 9(5) of the BIT does not provide otherwise; it simply sets out the different sources of law that a tribunal might apply to different issues. The issues of State responsibility here attract the rules of international law. The Association Agreements do not affect Venezuela's obligations under international law. There is nothing in these contracts showing any "cap" on the value of the Projects. On the contrary, the DA provisions serve as an additional form of protection that served to enhance the value of the Associations.

96. The Claimants are investors and therefore entitled to the benefit of the Treaty's substantive protections. Thus, the Claimants' claims must be assessed and valued under the Treaty and international law. Potential contractual causes of action are separate and distinct from Treaty claims. They cannot diminish the quantification of damages under international law. In the present case, Venezuela was not a party to the Agreements. A fortiori, these Agreements can neither remove nor limit the Venezuelan State's liability under international law.

97. The Congressional Authorizations confirm the irrelevance of the discriminatory action provisions. These Authorizations provide that the Agreements will not restrict Venezuela's sovereign rights. One of those rights was the right to grant binding protections to foreign investors by Treaty or by legislation (here the investment law).

98. The Claimants explain that the DA provisions include three basic propositions: (a) First, when a DA occurs, the Claimants must, to the extent practicable, pursue remedies against the governmental actor responsible for the DA, including actions for monetary damages against the State. (b) Second, the relevant PDVSA subsidiaries are contractually obliged to indemnify the Claimants for harm resulting from the DA, with the indemnity being limited under certain oil price scenarios. (c) Third, to avoid double recovery, if the Claimants obtain payment from the relevant governmental actor, they must provide an offset to the PDVSA subsidiaries through an appropriate credit or reimbursement.

99. The DA provisions evidence that they are irrelevant to the compensation owed by Venezuela under international law for the taking of the Claimants' investments. They are partial contractual indemnities payable by PDVSA affiliates. They do not purport to address Venezuela's obligations for its own wrongful conduct. They do not limit the profits of any Project participant, nor do they impose any limit on the fair market value of the Claimants' project interests.

100. Venezuela has avoided looking at the plain terms of the DA provisions and has instead relied on the negotiating history. The contractual text is the best evidence of the parties' agreement. The DA provisions expressly recognize the Claimants' rights and require the pursuit of those remedies that are available under the circumstances. Even if this Tribunal were to consider pre-contractual negotiating history, the DA provisions do not contain a value-cap on the State's liability under international law.

101. All of the Claimants' witnesses called at the August 2016 hearing confirmed their understanding of the three-pronged structure of the DA provisions as outlined above. Venezuela has failed to put forward a single witness who was involved in negotiating the Association Agreements. The sole witness appearing on behalf of Venezuela, Dr. Mommer, played no role in these negotiations.

102. The Claimants have never argued that Venezuela lacked the "sovereign power" to expropriate. The question is whether the DA provisions say anything about Venezuela's obligations under international law with respect to that power. They do not.

103. Moreover, the DA provisions of the Association Agreements provide for ICC arbitration. The ICC Arbitral Tribunal seized with the matter had to determine how the Discriminatory Action provisions have to be applied, and whether Venezuela's unlawful expropriation falls within the ambit of those clauses. Venezuela has denied that they cover the expropriation or other challenged measures. This ICSID Tribunal, however, has exclusive jurisdiction over Venezuela's breach of the Treaty.

104. The DA provisions add value to the Associations because they provide for an additional layer of protection, above and beyond the remedies against the State expressly envisaged in the DA provisions. Venezuela argues that a willing buyer of the Claimants' interests would value future cash flows under the assumption that the State would take all cash flows beyond the indemnity limits in the DA provisions. Accordingly, says the Respondent, the fair market value of the Claimants' project interests is limited by the DA provisions.

105. Even if one were to assume that the DA provisions somehow cap the value of the Associations, the only way such a cap could be imposed would be if the Claimants were deemed to have waived their rights to full reparation under international law. The fact is that the Claimants have

important international law rights against the State that were in no way waived, modified or limited by the Association Agreements, to which the State is not even a party. Those provisions did not purport to relieve the State of its own legal responsibility or to waive any otherwise applicable international law restrictions on the State's ability to take away an investment.

106. The Claimants also observe that Venezuela misconstrues the negotiation history of the Petrozuata and Hamaca Association Agreements. First, the *condiciones* in the Congressional Authorizations did not require a waiver of remedies against the State under international law. Each Authorization established only a non-exhaustive general framework for items to be addressed in each Association Agreement. Second, the ConocoPhillips parties were not negotiating with the State and hence were not agreeing to any limitations of the State's potential liability. Their access was limited to representatives of Maraven and Corpoven. Accordingly, those discussions can only have related to the rights and obligations between contractual parties. Third, there is no support for Venezuela's assertion that Conoco was seeking compensation "from the Government" via the Petrozuata Authorization, rather than from the PDVSA subsidiary Maraven. Mr. Griffith's reply letter of 17 September 1992 (R-97) addressed the proposed compensation that would be owed by Maraven. Fourth, the operative provisions of the Association Agreements were limited to the reciprocal rights and obligations of the parties to those Agreements. PDVSA and its subsidiaries were authorized to agree to take some degree of indemnity upon themselves. They could not and did not purport to agree to impose obligations on the State; that matter was outside the scope of the Agreements and was governed by other sources of State obligations, including international law. Fifth, the parties added provisions that were not dictated by the Congressional Authorizations, like the "sliding scale" compensation mechanism. The ConocoPhillips parties sought the most robust indemnities they could get, while their counterparts sought to narrow the indemnities. At the end, the Association Agreements provided for partial indemnification by the contracting PDVSA affiliate in the event of certain governmental actions whose damage exceeded specified thresholds. In sum, the terms of the Association Agreements do not purport to affect any obligations the State had, or might assume in the future, under international law, or in Venezuela's statutory or constitutional law. Nor is there any indication that the Discriminatory Action provisions were *in lieu* of otherwise applicable State liability. They were providing an additional layer of protection for the investors.

107. The Claimants submit that the Discriminatory Action provisions were intended to serve as limited insurance policies underwritten by the contracting PDVSA subsidiaries – not as a waiver of the ConocoPhillips Parties' rights in that regard. The Association Agreements provide for a contractual indemnity against the contracting PDVSA subsidiary for measures taken by the State. This indemnity is subordinated to whatever relief the Claimants may obtain in any other competent fora against the State. Venezuela is not a party to the Association Agreement. The Congressional Authorizations confirm it expressly when reserving the sovereign powers of the State. Venezuela cannot claim to be a third-party beneficiary. This is precisely how similar provisions have been interpreted by the ICSID Tribunal in *Mobil v. Venezuela* (CL-348). The Tribunal noted that the

Agreement limits the compensation due by PDVSA, a limitation reflected in the amount to be awarded by the ICC tribunal. No such limitation applies, however, to the State's responsibility under the BIT.

108. The Claimants also reject Venezuela's speculative claim that, in the absence of the expropriation, the Government would have "in all probability" taxed the Projects so as to capture all profits above the contractual price caps. This argument is illogical and without legal basis. It is no more than a recasting of Venezuela's main argument that the Association Agreements have the effect of a waiver of the Claimants' international law right to claim against the State, at least in respect of other than "normal" profits.

109. The Tribunal has held in its 2013 Decision and in its 2017 Interim Decision that Venezuela violated the Treaty by taking the Claimants' investments. It follows necessarily that they must be awarded full reparation for their losses – which is not what the Discriminatory Action provisions provide. Even if that were not so, those provisions do not afford any right to Venezuela or limit its liability for breaches of the Treaty.

110. The Claimants also object to Venezuela's assertion that even if the standard of full reparation applies, the Tribunal must take into account "the terms of the investment". The only cash flows that the Claimants could have expected to earn absent the expropriation would have been those below vague "exceptional" or "windfall" thresholds. The argument is circular. Only if Venezuela's argument was well founded – *i.e.* if the Association Agreements had allocated to the State all cash flows above an "exceptional" level – could one conclude that the Claimants' entitlement could be cut off at that level. If the Association Agreements do not extinguish the Claimants' right to full reparation under the standard of international law, then they cannot either affect the calculation of full reparation.

111. Finally, even if one were to assume that the DA provisions somehow serve as a cap on Venezuela's liability under the Treaty and international law, such limitation could not be operative here, because a party engaging in willful misconduct cannot claim the benefit of alleged contractual limitations on liability. Rather, under Venezuelan law, this party must pay all direct and consequential damages stemming from its conduct. Thus, even if Venezuela were hypothetically assumed to have stepped into the shoes of the parties to the Association Agreements, it would remain fully liable to the Claimants.

112. Venezuela cannot be allowed to benefit from any limitations on liability in the Association Agreements without also being subject to the laws that govern any such limitations. In all events, having willfully breached its international obligations, Venezuela cannot claim the benefit of any restriction of its liability under international law. For all these reasons, the Claimants are entitled

to full reparation for the takings in accordance with international law. The Association Agreements and the DA provisions do not undermine or limit that clear entitlement.

2. The Respondent's Position

113. The Respondent's analysis starts by affirming that the threshold question to be decided by this Tribunal is whether a State has the right to determine the terms and conditions upon which it will accept investments in its territory. The Respondent's basic position is that the investment in the Petrozuata and Hamaca Projects included the reservation by the State of its full sovereign powers[15] to take action affecting the Projects, and that compensation for such sovereign action would be provided by the State company partner in the Projects. Compensation for governmental action was to be on "equitable" terms and subject to a cap on "excess" or "exceptional" or "windfall" profits generated by high oil prices, which the State was entitled to take for itself as the "owner of the resource".

114. The Tribunal notes that it is faced with extremely lengthy and repeated explanations provided by the Respondent. For the purposes of this Award, the presentation of the Respondent's position must focus on those facts and arguments that are relevant for the Tribunal's understanding and its analysis of the pertinent questions requiring a solution. In order to remain faithful to the Respondent's presentation, the Tribunal retains the division based on each Project's historical evolution, referring as well to the summaries contained in the 2013 Decision.

a. The Petrozuata Project

115. The Respondent recalls that the Sixteenth Condition of the Congressional Authorization (R-21/92) addressed the precise manner in which the foreign partner would be "compensated" while at the same time reserving to the State its sovereign powers. The use of the word "compensate" in the Petrozuata Authorization is telling. This is the issue in this case, not "insurance" as the Claimants say. The Claimants understood full well that they were without any international recourse against the State (no BIT was applicable at that time) and they have admitted this point on several occasions during the course of this Arbitration. That is why during the negotiations they pressed Maraven for as much protection as possible.

116. The Claimants went into the Petrozuata Project understanding that they had no international remedy against the State and that their sole and exclusive remedy for adverse governmental action would be the compensation provisions. It would make no sense for the Government to insist on limited compensation from the State company but full compensation from the State itself.

[15] Based on Article 320 of the Constitution of the Bolivarian Republic of Venezuela (R-16) and Article 5 of the Organic Law that Reserves to the State the Industry and Trade of Hydrocarbons, dated 21 August 1975 (C-6, R-19).

117. The 17 September 1992 letter from Conoco's Mr. Griffith (R-97) commented on the draft of the conditions to be incorporated in the Petrozuata Authorization. The letter requested provisions of full compensation based on market value, an economic stability clause, and precisions on how Conoco's assets and interests will be valued and reimbursed in the event of nationalization. In response, only one change was made to the draft of Clause Sixteen, *i.e.* the inclusion of the language at the end, reserving the State's sovereign power[16]. Witness McKee testified that Conoco did not obtain anything it requested in the letter[17].

118. In its 16 September 1993 letter (R-100) Conoco wanted the key definition of Discriminatory Legislation (which ultimately became "Discriminatory Actions") to cover virtually all governmental action adversely affecting the Project. With respect to compensation, Conoco again sought full compensation, so as to restore the relevant Class B Shareholder's income to where it would have been had there been no Discriminatory Action. Conoco did not get it.

119. The Minutes of the Miami Negotiating Sessions which took place in November and December 1993 reveal that the question which was discussed was what would be the mechanism that would implement the notion of "equitable" compensation while allowing the State to capture what were considered to be windfall profits (R-395).

120. The January 1994 Conoco Venezuela Strategy Management Team Report (C-67) clearly expressed Conoco's understanding of the risks of the Petrozuata Project, of the fact that governmental measures were likely to be adopted in high price scenarios, and of the likelihood that the Government would place a ceiling on project economics. Witness McKee explained that they never expected that a country like Venezuela would not have the power to increase its take[18]; they believed in the sovereign rights of a country[19]. Thus, Mr. McKee not only acknowledged such expectation, he actually endorsed the concept[20].

---

[16] Cf. Report of Bicameral Commission dated 12 August 1993 (R-167, C-8); and further a presentation to the Senate (R-393) and a letter of the President of Maraven to the Permanent Commission on Energy and Mines dated 13 February 1996 (R-394).

[17] TR-E, 2010 Hearing, Day 3, p. 712:6-16; 2016 August Hearing, Day 1, p. 282:5-285:13, 291:9-293:19.

[18] TR-E, 2010 Hearing, Day 3, p. 727:6-16.

[19] TR-E, 2010 Hearing, Day 3, p. 739:13-17.

[20] Mr. McKee also said that Conoco's "hurdle rate" for the project was 20% (*ibidem*, TR-E, 2010 Hearing, Day 3, p. 731:8-15, 732:8-17). Within this limit, it was recognized that the State would be expected to increase government take. To do that, it was necessary to assure that cash flows from the Project up to a certain level would be protected from governmental action.

121. In February 1994, Conoco presented a detailed "sliding scale" proposal setting forth a compensation mechanism tied to the average price of Brent crude oil (R-101). The proposal was a follow-up to the discussions two months earlier in Miami.

122. The April 1994 Steering Committee Presentation confirms that Conoco understood well that the State was entitled to take governmental action that would affect project economics, and that Conoco's protection had to be provided through provisions for the granting of compensation by Maraven and that Conoco would not receive the "full compensation" it had sought from the outset of the negotiations. Given the lack of an "economic stability clause", Conoco was exposed to changes in the law that could have an adverse impact on the economics of the Project. Slide 8 identified the issue as "Gov't can take away economics" (R-102).

123. The February 1995 internal communication to the Conoco Management Committee once again highlighted the risk that the "government may radically change taxes, exchange rules and rates, or other features of our basic terms which could render our venture uneconomic" (R-397). The document noted that the risk of governmental action was being addressed by "seeking contractual terms which will help protect non-Venezuelan investors".

124. The PDVSA March 1995 Strategic Business Committee Presentation (R-219) reported Conoco's position as follows: "the owner of the resource must be able to obtain the benefit of exceptional profits". It is noted that the current compensation scheme (sliding scale) allows a gradual recognition of exceptional profits to the owner of the resource. Conoco's internal documents confirmed the company's view that a "large portion of the taxation risk has been eliminated by contractual provisions that require Mareven to offset Conoco's losses from discriminatory treatment" (R-398/397).

125. The Petrozuata Offering Circular dated 17 June 1997 (C-75) that by its nature is presumed to be accurate, does not highlight that "full compensation" from the State was available; it describes in detail the compensation provisions. There is nothing to support the Claimants' interpretation of the mechanism as a "partial insurance policy".

126. The Claimants say nothing about Dr. Mommer's testimony concerning the compensation mechanisms established for the upgrading Projects. His testimony is consistent with the full record. In his second supplemental direct testimony he recalled that the essence of the concept they discussed within PDVSA was defining what constitutes "normal profit", and what was "excess" or "windfall" profit. The Claimants did not impeach Dr. Mommer on the subject of the compensation provisions at the 2010 hearing. Personally, Dr. Mommer considered such clauses as a circumvention of the condition that the Projects should not in any way restrict the sovereign power of the State. He resigned from PDVSA over this disagreement in January 1995. The well-recognized

feature for the delivery of compensation for adverse governmental action was also explained by Professor Sornarajah and Professor Wells[21].

b. The Hamaca Project

127. The basic legal terms were set forth in the Nineteenth Condition of the Hamaca Congressional Authorization (R-93, C-132), making clear that the Project would impose no restrictions on the exercise of the State's sovereign powers.

128. Compensation was provided in the Twenty-First Condition, providing that the foreign participants would be entitled to compensation from PDVSA's subsidiary, subject to the conditions and limitations established in the Agreement. This Condition was similar to the Sixteenth Condition of the Petrozuata Authorization (R-21/92), including the language reaffirming that the compensation mechanism would not in any way restrict the sovereign power of the Government to adopt any measure in the future.

129. The Twenty-First Condition also contained an additional provision relating to the buy-out option. It provided that in the event that the State company charged with the responsibility of providing the compensation for adverse governmental action did not agree with the amount of compensation determined, it would have the option to purchase the interest of the ConocoPhillips subsidiaries involved in the Hamaca Project at the formula price. The provision underscores that there would be an upper limit on compensation for adverse governmental action, ensuring that "excess" or "exceptional" or "windfall" profits resulting from high oil prices would inure to the benefit of the State.

130. In the present case, the material point is that the buy-out option required by the Twenty-First Condition of the Hamaca Authorization would undoubtedly be triggered by any finding of an arbitral tribunal that compensation was due for any of the governmental measures at issue in this case. Thus, PDVSA's subsidiary involved in the Hamaca Project would have the option to purchase the entirety of the ConocoPhillips subsidiaries' interests in the Project at the formula price, thereby precluding any possibility of recovery in excess of that amount.

131. The minutes of an early Corpoven-Arco Joint Study Agreement Steering Committee Meeting in February 1995 (R-107) confirm that the Congress has the power to enact new laws or to modify current laws. The minutes make clear that the State would be able to exercise its full sovereign powers. The investors were to be compensated for adverse governmental action by the State

[21] The Respondent also refers to Thomas W. Waelde/George Ndi, Stabilizing International Investment Commitments: International Law Versus Contract Interpretation, Texas International Law Journal 31 (1996) p. 215-267 (R-220).

company, with any compensation being subject to the price cap formula to ensure that the State would remain entitled to capture windfall profits generated by high prices.

132. The concept of "equitable" compensation limited to protecting cash flows that would result from ordinary prices, but not extraordinary prices, was later incorporated into preliminary term sheets for the Hamaca Project, such as the term sheet dated 2 May 1996 (R-402). As in the case of all other documents in the record, the operative word was "compensate". The term sheet also recognized the inclusion of a buy-out option under "equitable conditions".

133. A flow chart from a Corpoven April 1996 presentation entitled "Terms and Conditions of the Arco-Corpoven Association" (R-405) illustrates the operation of the compensation arrangements. The chart shows that the legal actions against the governmental measures, *i.e.* remedies to obtain the revocation of the measures, were only the first step in the chain that would lead ultimately either to the acceptance of the compensation determined by the arbitral tribunal or a buy-out at the formula price. In that manner, the State ensured that the limitation on compensation based on the price cap would be respected.

134. The Phillips' May 1996 internal presentation to its own senior management contained a slide confirming its understanding of the issue of fiscal stabilization (C-110, p. 43). Nothing could be clearer on the issue of fiscal stability than the words: "No stability clause". Witnesses Goff[22], Appel[23] and Sheets[24] confirmed that there was no such clause.

135. Since the Hamaca Project enjoyed no stability guarantees from the State, the parties focused on designing compensation provisions that would address the adverse economic consequences of State action. In a 29 May 1996 letter to Corpoven, Arco abandoned the idea of stabilization after Corpoven had stated that it would have problems getting such protections through the current Congressional approval process (R-403). The draft discrimination provision attached to the letter made clear that there would be no obligation to compensate in case a "windfall tax" was imposed at a time when the price of oil exceeded a certain threshold.

136. In a 17 June 1999 internal memorandum, Mr. Bowerman advised the Phillips' Management Committee that President Chávez was authorized to reform the Income Tax Law and impose taxes on banking transactions (LECG-65). He knew that there was "no stability clause" for the Hamaca Project and that the Government expressly retained all of its sovereign powers to adopt measures pursuant to the Constitution and applicable laws.

---

[22] TR-E, 2010 Hearing, Day 3, p. 619:1-12.

[23] TR-E, 2010 Hearing, Day 4, p. 925:1-6, 933:3-7; 2016 August Hearing, Day 1, p. 244:10-14.

[24] TR-E, 2010 Hearing, Day 6, p. 1568:8-1571:12.

137. A Hamaca Information Memorandum shows that the Hamaca partners were considering approaching the Government for a tax stabilization clause under the Investment Law of 1999 (C-101). No tax stabilization agreement was ever made or even sought.

138. As in the case of the Petrozuata Project, the record shows that the legal negotiation centered around the definition of "windfall" profits that the State would be entitled to capture. With the experience of that Project in mind, the discussions concentrated on the concept of a protected annual cash flow based on a price cap. The parties settled on a US$ 27 per barrel threshold (in 1996 dollars), to be escalated in accordance with inflation, as defining the border between "normal" and "windfall" profits, with no compensation being payable for governmental action capturing "windfall" profits resulting from price increases above that level. This point is illustrated in a summary of the parties' positions during the negotiation (R-392) and in a flow chart presented by Corpoven in 1996 (R-405).

139. The Respondent also notes that the U.S. Embassy reported in May 2006 that according to a partner in a Venezuelan law firm, the strategic associations do not have a legal basis to fight the income tax increases or the new extraction tax (R-350). For the protection from tax increases, each of the agreements has some form of indemnity clauses. However, in order to receive payment, a certain level of economic damage must occur. Unfortunately, the formulas that are used assume low oil prices. Due to current high oil prices, it is unlikely that the increases will result in enough damage to reach the threshold where PDVSA has to pay the partners. The Respondent assumes that the lawyer in question was Ms. Eljuri, ConocoPhillips' own lawyer in Venezuela. The cable demonstrates, first, that the Claimants always knew that the terms and conditions of their investments in the upgrading Projects included the sovereign right of the State to take measures affecting project economics, with compensation to be limited to "normal" profits defined by applying a price cap. Second, the cable explains the operation of the compensation mechanisms for the upgrading Projects; the Claimants have declined to comment on the substance of the cable, beyond arguing that the cable was "irrelevant", "hearsay" and "inadmissible". The Claimants seem to think that the cable is irrelevant because it is referring to the Mobil's contractual claim for damages in the ICC arbitration against PDVSA. However, the cable says nothing about that arbitration but explains the operation of the compensation provisions of all the extra-heavy crude oil ("EHCO") upgrading Projects in the Orinoco Oil Belt. Thus, none of the Claimants' non-substantive arguments relating to those cables has any merit.

c. The Claimants' legal arguments

140. In reply to a *first* argument raised by the Claimants, the Respondent admits that certain issues are governed by international law, but that does not mean that international law, including the Dutch Treaty, will not allow consideration of national law or the special agreements entered

into regarding the investment in question. Thus, expropriation affects property rights, and those rights are defined by the local law under which they were created.

141. The Respondent submits that the Congressional Authorizations and the Association Agreements are to be taken into account and given effect in determining quantum under Article 9(5) of the Dutch Treaty, which refers to the law of the Contracting Party concerned and the provisions of special agreements relating to the investment. The concept of fair market value is not a concept divorced from the underlying rights being valued, which themselves cannot be separated from whatever limitations may be attached to them. The notion of reparation is not independent of the terms and conditions applicable to the specific investments at issue. In other words, giving effect to the governing law provisions of Article 9(5) of the Dutch Treaty and applying the compensation mechanisms is not only a requirement of the Dutch Treaty itself, but is consistent with, and an integral part of, the international law analysis that the Claimants want this Tribunal to apply pursuant to the *Chorzów* decision.

142. The Respondent reiterates that the nature and scope of property rights are defined by local law, not international law. The scope of rights that the Claimants had is determined by national law, in this case starting with the Congressional Authorizations. The Claimants cannot circumvent the terms and conditions upon which they were permitted to invest in Venezuela. They must be given effect and they determine the basis of compensation.

143. The Claimants' *second* argument has nothing to do with the facts of the case. It may be true that a State cannot under international law eviscerate acquired rights through subsequent legislation and invoke its national law to such effect. But in this case, the rights acquired were from the outset subject to the State's ability to capture "excess" or "windfall" or "exceptional" profits. The Respondent is relying upon the terms and conditions established at the outset of the upgrading Projects pursuant to the Congressional Authorizations, which set forth the terms and conditions under which the Claimants would be entitled to invest in Venezuela.

144. As their *third* argument, the Claimants submit that they had never waived their international law rights. Therefore, the compensation provisions of the Association Agreements cannot deprive them from their entitlement to full compensation, even if this would include "windfall" or "exceptional" profits. For the Respondent, the concept of waiver is irrelevant in this case. One can only waive a right that one has. The rights the Claimants had were limited in nature. Article 2 of the Dutch Treaty contemplates that the State is entitled to establish the terms and conditions under which an investment would be admitted in its territory. The Claimants cannot resort to the concept of waiver to do away with those terms and conditions and expand the rights their affiliates acquired when they made the investment.

145. The notion that the Claimants were immune from governmental action capturing windfall profits cannot be based on any part of the record. The Claimants were only entitled to compensation in case the governmental measure encroached upon the level of protected cash flows measured by the formulas under the price caps. This is not a matter of waiver of an acquired right; it is one of defining the right that existed in the first place, as a party cannot waive a right it does not have.

146. The Respondent recalls that the Claimants (i) acknowledge that Venezuela had the right and discretion to define the terms and conditions upon which it admitted the investments and (ii) claim that the Respondent cannot "seek refuge" in those terms and conditions, which reserved for the State the right to take governmental action relating to the investments. One cannot acknowledge the right of the State to determine the conditions for the admission of an investment, and also invoke international law to take that same sovereign right away. None of the Claimants' cases refutes the fundamental point that the terms and conditions of an investment must be given effect. This is simply a matter of recognizing that a treaty claim is not divorced from the terms and conditions of an investment and that the property rights that are protected by a treaty are rights created and defined by national law. There is no basis either in national law or in international law for compensating a party for greater rights than it had or for ignoring limitations imposed on those rights as a condition for the admission of the investment. The Claimants have no answer to the evidence that the Petrozuata and Hamaca Projects were authorized by Venezuela under specific terms and conditions. Those terms included the State's reservation of its full sovereign powers, with compensation to be provided by the State company subject to limits established by price caps. Under Article 2 of the Treaty, the Claimants cannot override those terms and conditions by invoking general principles of international law having nothing to do with this case.

147. The Claimants' *fourth* argument is that the Respondent cannot benefit from any limitation on liability because it was not a party to the Association Agreements nor can it step into the shoes of the PDVSA subsidiaries that are actually parties to the Association Agreements. The Claimants add that as a matter of Venezuelan contract law, a party who has acted in bad faith cannot invoke a contract limitation. This is irrelevant to the State's position. The issue is the fundamental condition on which the Projects were authorized and without which there would be no Projects at all. The State's position here is that of a regulator and owner of the natural resource, not a contracting party. The principle of compensation was explicitly recognized in the Congressional Authorizations, but such compensation was to be on "equitable" terms and conditions, which included the State's entitlement to capture through governmental action any "excess" or "exceptional" or "windfall" profits resulting from high oil prices. The Respondent asks this Tribunal to respect the terms and conditions under which the Projects were authorized. To do otherwise would be to give the Claimants the windfall they seek and to run afoul of the elementary principle that a party cannot be compensated for rights it never had.

148. Claimants' also refer to the majority's decision on bad faith negotiation that somehow precludes the application of the terms and conditions on which the investments in the upgrading Projects were authorized. This is not a good point. In its 2013 Decision, the Tribunal expressly left open the issue of the relevance of the compensation provisions (para. 402). And the allegation of the Respondent's bad faith has been removed from the record by the Tribunal's conclusion in the 2017 Interim Decision.

149. The Claimants' *fifth* argument is that "in all probability" Venezuela would not have exercised its full right to tax profits generated by prices in excess of the price caps, and that, *sixth* point, they can disregard windfall profit taxes in their valuation. The Respondent observes that one can only wonder how anyone could truly believe that Venezuela would not have, if the nationalization had to be unwound, exercised its full sovereign authority to collect "excess" or "exceptional" or "windfall" profits through taxation. The exercise by Venezuela of its authority to enact measures to capture windfall profits was perfectly lawful. It would have been perfectly within its rights to tax all profits above those generated by the price caps in the case of the former Hamaca and Petrozuata Projects had those Projects continued in the "but-for" world the Claimants hypothesize. The *Chorzów* decision cannot be cited in support of insulating the concept of full reparation from any consideration which negatively affects value.

150. The Respondent affirms that any reasonable buyer of the Claimants' interests at the time of the expropriation would have done its due diligence on that issue and taken into account the State's power to capture windfall profits. Even when considered by reference to a later date, like the date of the award, the issue must naturally be raised of the probability that additional taxes would have been assessed at the earliest opportunity. It is obviously logical for a State to insist at the outset of a project that it wants to retain its full sovereign rights to capture windfall profits.

151. The Respondent refers to the testimony of Dr. Mommer and the entire history of the conduct of the Government starting in 2004, when there was a structural change in the international crude oil markets leading to an upward spiral in crude oil prices. In his first witness statement, Dr. Mommer made clear that the Government was reacting to the extraordinary increases in price. This explains why in October 2004, the royalty rate of 16⅔% was restored. It also appeared in 2005 and 2006 that the 34% income tax rate was no longer needed for the economic viability of the Projects. He argued for a 50% rate. Prices continued to increase. President Chávez then decided that an excess profit tax especially designed for very high prices should be introduced. If the decision to nationalize had not been made in 2006, additional taxes would have been adopted. It is thus clear that it was a virtual certainty, not just a probability, that the Government would have exercised its sovereign right to capture windfall profits from the Projects.

152. Virtually all relevant authority makes clear that a tribunal may not disregard post-nationalization events when calculating value as of the award date. In this case, preserving the ability to capture windfall profits was precisely the objective of the Congressional Authorizations.

153. In the end, the Claimants reiterate their argument that the Respondent's principal submission is that the Agreements effect a waiver of the Claimants' international law rights to claim against the State, at least in respect of other than "normal" profits. The basic problem with this argument, says the Respondent, is that the concept of waiver is completely irrelevant to this case. The Claimants want this Tribunal to analyze this case as if it involved the waiver of acquired rights, because they know well that the record shows that they did not have the rights they now claim. If the Claimants never had the right to retain windfall profits resulting from high prices free from governmental interference, then there is no place for the argument of waiver or any of the authorities relevant to the waiver concept.

154. The conclusion from the Congressional Authorizations and compensation provisions is that the State, acting rationally, would have exercised its sovereign power to capture excess profits resulting from oil prices above those price caps. The Respondent had exercised that sovereign power on several occasions as prices began to rise starting in 2004, and it had every reason to continue doing so, as Dr. Mommer testified it would have done[25].

155. The Claimants seek to insulate the post-nationalization changes from any negative post-nationalization changes. An illustration is their approach with regard to the Venezuelan windfall profit taxes. The Claimants have sought to avoid the relevant fiscal regime applicable to their Project in an effort to inflate their calculation of damages. In the first phase, the Claimants challenged the 50% income tax rate and the 33⅓% extraction tax/royalty that was in place at the time of the expropriation as violating their imaginary right to "stabilization" of the 1990s fiscal regime. That argument was rejected by the Tribunal. Now the Claimants seek to avoid the application of taxes on windfall profits that were enacted in the years following the expropriation.

156. The purpose of the analysis is to put the Claimants back into the position in which they would have been, in all probability, had the expropriation not occurred. That means that the Claimants would have continued engaging in the Projects under the terms of the Association Agreements and the Congressional Authorizations, subject to the State's express reservation of rights to enact measures, including taxes, affecting the Projects. The Claimants were thus entitled only to compensation for governmental measures up to the price caps specified in the Association Agreements. Thus, had the expropriation not occurred, the Claimants would have been subject to fiscal measures taken by the Government, including the windfall profits tax laws they now seek to disregard.

[25] Second Supplementary Testimony, para. 11.

3. *The Tribunal's Findings*

157. The Parties' submissions on the pertinence of the compensation provisions of the Petrozuata and Hamaca Association Agreements address at length the Discriminatory Actions affecting ongoing Projects in taking away part of the participants' revenues. However, the primary focus in the present case should be on the impact of the expropriation that became effective on 26 June 2007.

158. One of the preliminary steps to be made in the analysis of pertinent issues is to set aside expressions not associated with a meaning or a definition. The Claimants' contention that they were entitled to "full" compensation does not, by itself, remove from the debate the effects to be given to the compensation provisions; it depends on what "full" should mean. Similarly, on the Respondent's side, there are, indeed, many indications that the Parties were to expect that "Government will take away economics", but such statement is of little guidance as long as the "economics" referred to are not identified. More particularly, the Respondent's position fails when it argues that, in the present case, the Government's expropriation had taken away such "economics" by terminating the Association Agreements in such a way that compensation should be based on provisions of these same Agreements that the Government decided to end and to which it has never been a party.

159. The Tribunal will have to avoid being caught into ambiguities and polysemic wording. When the Respondent states that "[its] first conclusion is that the Compensation Provisions formed the basis for providing compensation for governmental action agreed at the outset of the Upgrading Projects"[26], what does it mean precisely? What is the thought behind an assertion that "this case involves the definition of the scope of the rights that were expropriated"[27]? Does this mean that these provisions govern exclusively the admissibility and the effects of the expropriation, to the exclusion of any other remedy, be it domestic (Investment Law – C-1, R-12) or international (BIT)? Or does it mean that the compensation provisions govern the valuation of the economic earnings of the investing shareholders in case they are hit by a Discriminatory Action, with the effect that the same fixing of profit must be applied when considering the Claimants' compensation for the nationalization effective on 26 June 2007?

a. The main elements and structure of the compensation provisions

160. As a first step, the Tribunal must determine the meaning of "Discriminatory Action" in the framework of the compensation provisions. The definition of this concept is complex and different

[26] Respondent's 2017 Post-Hearing Brief, para. 47. Similar or identical expressions are used frequently by the Respondent.

[27] Respondent's 2017 Post-Hearing Brief, para. 30.

for each of the two Association Agreements. The elements of the definition are, in relevant part, as follows:

161. The *Petrozuata* Agreement provides in Section 1.01 that a:

> "Discriminatory Action" means any actions, decisions, or changes in law, adopted by national, state, or municipal, administrative, or legislative authorities, after a Development Decision has been made, which singly or in combination, result in unjust discriminatory treatment to the Company, any of its Shareholders … which are not applicable to all enterprises in Venezuela and which produce Significant Economic Damage to the Shareholders of the Company other than the Class A Privileged Shareholders[28].

However, under the same Section 1.01:

> a treatment shall not be considered discriminatory if it "equally applies to the enterprises within the oil industry in Venezuela, except that (1) with respect to the application of income taxes and any valuations as a basis for income taxes (e.g. the Fiscal Export Value), treatment shall be considered discriminatory if it is not generally applicable to most enterprises in Venezuela".

162. "Significant Economic Damage" was defined as the result of Discriminatory Actions during any fiscal year, which amounts to at least US$ 6.5 million (inflated from 1994 onwards) for all Class B Shareholders[29]. Such damage shall be determined by calculating any loan repayments or dividends that a Class B Shareholder would have otherwise received had no Discriminatory Action occurred.

163. Section 9.07 then provides for the compensation that an "Injured Shareholder" will receive from the Class A Shareholder when it suffered in a given fiscal year significant economic damage as a result of any Discriminatory Action. The payment will be made from cash available to the company for the payment of dividends to the Class A Shareholder and the repayment of cash call loans (a). When the indexed price compared to the 1994 price of Brent crude oil was US$ 18.00 or less, 100% of the damages had to be compensated. If the yield was US$ 25.00 per barrel of Brent crude oil, no damage shall be compensated. For prices between these two amounts, damages were determined in proportion based on a formula also called "sliding scale" (b). In fact, the different ranges of the "sliding scale" are of no relevance for purposes of this Award given the fact that since the expropriation, prices were above US$25 per barrel, with the effect that an alternative price prevailed (on the hypothesis of damages greater than US$ 75 million in 1994 US$), providing for the payment of 25% of the actual damages suffered (c). It was further provided that the injured shareholder shall, to the fullest extent practicable, commence and exhaust all available legal and

[28] This was the PDVSA subsidiary Maraven in the case of the Petrozuata Project.

[29] Conoco Orinoco Inc.

administrative actions which may provide a remedy from the application of any Discriminatory Action (d). In case of controversy, payment shall be postponed until an agreement was reached or such occurrence has been finally determined through an arbitral proceeding (f).

164. While the policy behind the Hamaca compensation provision is the same as for the Petrozuata Project, the structure and the key elements of the legal framework are different. Section 14 of the Hamaca Association Agreement also takes as the starting point the occurrence of a Discriminatory Action (a). Such action may consist of a change of law, act of government or any other action or decision of a Venezuelan authority, which is (i) applicable to the Association, (ii) unjust and (iii) not generally applicable to entities engaged on their own behalf in the hydrocarbon industry in Venezuela (b).

165. The Hamaca Association Agreement further provides that in respect of tax rates, new taxes, financial burdens or charges for goods and services, foreign exchange controls "or the expropriation of the assets of, or a Party's interest in, the Association or Association Entities", such change of law or decision will be considered Discriminatory Actions if they are not generally applicable to corporations and other legal entities that are taxable in the same manner as corporations in Venezuela (b/1). Additionally, reductions or increases in the royalty rate applicable to the crude oil will not be considered as Discriminatory Actions "unless such changes result in a royalty rate for the Parties in their capacity as participants in the Association, in excess of the maximum rate specified by law for the hydrocarbon industry in general" (b/4).

166. To the extent that a foreign party suffers a reduction of more than five percent in any fiscal year in its reference net cash flow as the result of one or more Discriminatory Actions, the PDVSA subsidiary Corpoven Sub shall be required to compensate that party (Sec. 14.2(a)). The relevant factors are defined with great complexity. Referring to the Claimants' experts' presentation[30], taken in its most simple terms, the main information is that a reference net cash flow of US$ 27 or more has to be taken into account since 2008. A reduction of more than 5% (US$ 1.35) then triggers Corpoven Sub's obligation to compensate. The damages of the affected party shall be equal to the amount in US$ needed for this party to attain the full reference net cash flow that this party would have attained in the relevant fiscal years had the Discriminatory Action not occurred, plus interest thereon at LIBOR, and increased by an amount taking account of the applicable taxes (Sec. 14.3(d)).

167. Upon notification by the foreign party to Corpoven Sub, negotiations may take place, including discussions about legal remedies (Sec. 14.3(a-c)). In the absence of an agreement on amendments to be concluded, each party is entitled to commence arbitration (Sec. 14.4(a)). If it is admitted that Discriminatory Actions resulted in a material adverse effect to a foreign party, the

[30] Abdala/Spiller, Consolidated Update Report, 17 November 2016, paras. 38-42.

arbitral panel shall determine, in a second stage of the proceeding, the "buy-out price" (Sec. 14.4(b)), to be calculated either by reference to that party's net investment or to the commercial value of its project interest (Sec. 14.4(c)). If then the matter cannot be settled, one option would be that Corpoven Sub purchases the affected foreign party's project interest at the buy-out-price (Sec. 14.5(a-2)).

b. The compensation provisions do not set the standard of compensation for the State's expropriation

168. The Respondent's main position is that the expropriation of the Claimants' interests embodied in the Association Agreements implies that the compensation they are entitled to receive must be determined in light of and is limited by the compensation provisions contained in these Agreements. The Claimants shall not, when invoking the BIT or customary international law, do away with the compensation regime they agreed to when entering into the Association Agreements prior to the date when the BIT became effective.

169. The Tribunal notes that it is not seized with a claim for declaring that the provisions of the Association Agreements, applicable either to an expropriation or to its compensation, have been breached. The Claimants' request for relief is, in this respect, based on a claim for a declaration that the Respondent breached Article 6 of the BIT, and that the Tribunal must determine the damages resulting from such breach. The Claimants invoke international law and not the Association Agreements as the basis for their claim for damages.

170. Moreover, the Tribunal observes that the application of Article 6 of the BIT to the present dispute prevails over any Venezuelan domestic law on the same subject matter. A breach of Article 6 of the BIT is defined solely by this provision without any consideration of the domestic law of the host State. The same principle must necessarily apply to the compensation due as a consequence of an expropriation, notwithstanding what the applicable standard may be under domestic law. The standard of the BIT prevails over any standard the host State may claim to be applicable under its national law.

171. The Respondent's position that the compensation provisions of the Association Agreements govern the economic consequences of the expropriation enforced on 26 June 2007 is not persuasive on the basis of the very terms and purposes of these provisions. An expropriation of the Project cannot be a "Discriminatory Action" within the meaning such term has in the compensation provisions[31]. For Petrozuata, such Discriminatory Action should follow a "Development Decision" (Sec. 1.01); such a decision has nothing in common with an expropriation. For Hamaca, such Action

[31] The Respondent had explained that a change in operatorship and the restructuring caused by migration were not covered by the definition of Discriminatory Action; cf. Respondent's Counter-Memorial on Quantum, paras. 45, 278.

must be "applicable to the Association" (Sec. 14.1(b)) and affect net cash flow (Sec. 14.2(a)); the cash is no longer flowing when the Project ceases to exist. Similarly, the payment provisions make sense only in the case of the Projects' continued existence. In the case of Petrozuata, the compensation is paid through the provision of dividends, or out of general funds accumulating payments differed for later (Sec. 9.07). In the case of Hamaca, the notification by the foreign party of a material adverse effect caused by a Discriminatory Action is followed by negotiations directed toward the agreement of amendments to the parties' relation, which is therefore considered as being ongoing (Sec. 14.3(c)). If the affected party's claim is not withdrawn, its damages are to be paid out of Corpoven Sub's net cash flow from the Project (Sec. 14.5(a/1)) which therefore continues to exist. In case the parties were unable to agree upon modified terms of their agreement or to accept an arbitral decision, a by-out had to be triggered; however, in the case of an expropriation, the shares to be sold no longer exist.

172. The Respondent has relied on one sentence where the case of an expropriation is mentioned as an illustration of a Discriminatory Action. The Hamaca compensation provision refers, indeed, to "the expropriation of the assets of, or a Party's interest in, the Association or Association Entities" (Sec. 14.1(b/1)). However, these terms include only assets or interests as part of the Association. This expression, not contained in the Petrozuata Agreement, does not include the entire Project governed by the Association Agreement. Finally, the buy-out regime of the Association Agreement is based necessarily on the existence of an on-going Project, and completely incompatible with its taking by the Government through an expropriation.

173. The Tribunal has noted a debate between the Parties on whether the compensation provisions would govern an expropriation different from the one enforced through a single taking on 26 June 2007, consisting of an agglomerate of a number of Governmental actions, to be qualified together as Discriminatory Action, while certain of its components would, as such, not meet the conditions set in the pertinent definition. The Tribunal was told that the Parties had reached an agreement on the applicability of the compensation provisions in respect of an expropriation[32]. The Respondent further confirmed that this means that the compensation provisions apply to the expropriation "in this case"[33] – this meaning "exclusively". This position does not reflect the Claimants' claim in the present case[34]. It can only relate to the dispute brought before the ICC Arbitration Tribunal. It is of no concern in the present case, where the expropriation at the origin of the dispute

[32] TR-E, 2016 August Hearing, Day 2, p. 459:10-18 (Kahale, King); 2017 March Hearing, Day 15, p. 4518:5-4522:19 (Partasides); 2017 September Hearing, Day 18, p. 5264:1-10 (Kahale).

[33] Respondent's 2017 Post-Hearing Brief, paras. 23, 48, noting the difficulty of applying these provisions "when the contract is over" (para. 23).

[34] The Claimants' Counsel explained at the March 2017 Hearing that their expropriation claim was not governed by the Discriminatory Action mechanism, which defines the value that has been expropriated but does not define the right related to the expropriation, nor does it represent an exclusive remedy; cf. TR-E, 2017 March Hearing, Day 15, p. 4513:18-4516:22, 4521:9-4522:19 (Partasides).

is the single taking of 26 June 2007 which led the Claimants to claim for a breach of Article 6 of the BIT.

174. The Tribunal cannot agree with the Respondent when it argues that Mr. Griffith, in his 17 September 1992 letter (R-97), accepted that the compensation provisions specifically address how "assets and interest of Conoco will be valued and reimbursed in the event of nationalization"[35]. This is not what Mr. Griffith wrote. In fact, he wrote to Mr. Aliro Rojas, CEO of Maraven, that Conoco wanted to know how this matter would be addressed in their forthcoming negotiation, noting further that they would like full compensation and an economic stability clause. He also noted that the project required positive tax legislation. This is not what they obtained, but this is not the same as submitting that Mr. Griffith had accepted in 1992 that the only remedy available in case of nationalization would be what was provided in the clauses on discriminatory treatment (respectively in the Congressional Condition No. 16). The Law on the Effects of the Process of Migration into Mixed Companies of the Association Agreements of the Orinoco Oil Belt, approved by the National Assembly of 11 September 2007, declared that these Agreements "shall be extinguished" (C-35).

175. The Tribunal also notes that the Respondent's reliance on the compensation provisions as the rules governing the expropriation effective on 26 June 2007 is inconsistent with the terms and effects of the taking that did take place on that date, when Venezuela assumed directly the activities performed by the Associations and extinguished ConocoPhillips' ownership interests[36], thus necessarily including the rights held by ConocoPhillips through the Association Agreements including those contained in the compensation provisions. As mentioned earlier, Witness Mommer recalled that, at that date, the Association Agreements were terminated[37].

176. The Respondent has denied that the Venezuelan Law for the Promotion and Protection of Investments of 22 October 1999 (R-12, C-1) had any role to play in respect of the expropriation decreed on 26 June 2007. It appears correct that the Claimants in the present case were not subject to the Investment Law. However, the joint ventures conducting each of the three Projects were in the opposite position. It has been explained by the Respondent in the jurisdictional phase of this proceeding that pursuant to Article 5 of Decree No. 1.867 of 11 July 2002 on Investment Law Regulation[38] the three joint ventures heading each of the three Projects were to be considered as

---

[35] Respondent's 2017 Post-Hearing Brief, para. 53; TR-E, 2017 September Hearing, Day 18, p. 5264:12-21 (Kahale).

[36] Witness Mommer, TR-E, 2016 August Hearing, Day 3, p. 993:8-994:17.

[37] The Witness used the term "disappear" (TR-E, 2010 Hearing, Day 7, p. 1838:16-17), further explaining that the assets were taken over (TR-E, 2010 Hearing, Day 7, p. 1716:14-15, 1854:12-13).

[38] Regulation of the Decree with Rank and Force of Law on the Promotion and Protection of Investments (RL-2).

entities receiving the investment *(empresa receptora de la inversion)*[39]. These entities were therefore holding investments "owned by or actually controlled by a Venezuelan or foreign individual or legal entity" and thus subject to the Investment Law (Art. 3, last and sole paragraph – R-12). The Investment Law must prevail over the Association Agreements in the hypothesis that one would consider that these Agreements would govern the effects of their own expropriation.

177. In any event the Tribunal notes that if the Claimants' claim for compensation was governed by the compensation provisions of the Association Agreements, it would be covered by the arbitration clauses contained therein (Sec. 9.07(f) and Sec. 13.16 for Petrozuata, and Sec. 14.4 for Hamaca). No claim based on these provisions is before this ICSID Tribunal. This, however, does not mean that these provisions are irrelevant for this Tribunal's ruling on the consequences of the expropriation that breached Article 6(c) of the BIT.

178. The Tribunal notes the Respondent's statement that "the issue before this Tribunal is not to determine whether the Association Agreements have been breached, but whether the compensation mechanisms established pursuant to the Congressional Authorizations as conditions to entering into the upgrading Projects are relevant in determining quantum"[40]. The question is correctly framed and deserves further consideration. It implies necessarily that the expropriation enforced by the State on 26 June 2007 is not to be examined as part of a claim invoking a breach of the Association Agreements. The Respondent's statement, quoted above, is not different from the Claimants' opening submission at the 2016 August Hearing that the Association Agreements are the basis for determining quantum. It was pleaded that in asking the question "what is it that was taken from ConocoPhillips?" the Claimants recognized that you must look at the "bundle of rights" that were taken. The Claimants further stated that they also recognized that that "bundle of rights" centers on the Association Agreements and the value that they represented to ConocoPhillips[41].

c. The compensation provisions are part of the legal structure and the economic value of the Association Agreements

179. Irrespective of whether the standard of compensation is "just compensation" under Article 6(c) of the BIT or "full" reparation based on customary international law, both sources of law cannot govern exclusively the determination of the compensation and its amount. In one way or the other, compensation reflects a value corresponding to the loss suffered by those whose rights are affected by the expropriation. These rights are not determined and have not been acquired on

[39] Memorial on Objections to Jurisdiction, dated 1 December 2008, para. 132, note 186, enumerating Petrolera Zuata, Petrozuata C.A., the Corocoro Development Consortium, and the Hamaca Association. Cf. also Legal Expert Opinion of Enrique Urdaneta Fontiveros, dated 28 November 28, 2008, para. 31.

[40] Respondent's Counter-Memorial on Quantum, 18 August 2014, para. 155.

[41] TR-E, 2016 August Hearing, Day 1, p. 78:2-9 (Partasides).

the basis of either Article 6 of the BIT or general or customary international law. These are rights, mostly rights *in rem* or based on contractual undertakings that have been created and are held under national law. In this respect, the Respondent submits correctly that Article 9(5) of the BIT has to be given full effect when it refers to "the law of the Contracting State concerned" and to "the provisions of special agreements relating to the investments", thus relying upon the provisions of the Association Agreements and related provisions of the laws of Venezuela. None of the other sources of law enumerated in Article 9(5) are pertinent or applicable in this respect.

180. In other words, "full compensation", as the term is frequently used by the Claimants, cannot represent more than compensation of the rights and assets held by the Claimants at the relevant time and including revenues deriving therefrom in the future to an extent yet to be determined. Those rights were based on the Association Agreements, which are governed by Venezuelan law.

181. Therefore, as the expropriation had the effect of depriving the Claimants from revenue they were entitled to receive under the Association Agreements, these Agreements apply fully, including their compensation provisions (as far as Petrozuata and Hamaca are concerned). To the extent that these provisions fixed a limitation on the Claimants' potential right to be paid the Project's dividends, such limitation has to be considered when determining the scope of the taking through the expropriation. Compensation represents a value corresponding to a loss. It cannot cover more than what the Claimants were entitled to if there had been no expropriation.

182. Faced with a similar question, the Tribunal in *Burlington* noted that "[it] must assume that Burlington holds the rights that made up the expropriated assets and that those rights are respected. This does not mean that the Tribunal is enforcing a contract claim. What the Tribunal does is to value an expropriated asset, which the Parties agree consists of a bundle of rights allowing Burlington to obtain future revenues"[42].

183. The Claimants state correctly, as a principle, that they had not waived their rights under international law. However, while the protection of their rights as investors was governed by the BIT, the content of these rights was determined by the Association Agreements governed by the laws of Venezuela. This is what Article 2 of the BIT mentions as a Contracting Party's "framework of its laws and regulations" governing the investment. When accepting their investment in Venezuela through the Association Agreements and the Congressional Authorizations on which these Agreements were based, the Claimants acquired the rights contained in these instruments and covered by the available investment protection, which was, at the beginning, based on domestic law, and became the BIT at a later stage only. The investors' rights are those they acquired when making their investment in a Contracting State of the BIT. These rights were those contained in the

[42] *Burlington Resources, Inc. v. Republic of Ecuador*, ICSID Case No. ARB/08/5, Award of 7 February 2017, para. 358, further noting that "the expropriated contracts included a mandatory tax absorption clause which cannot be ignored for valuation purposes" (para. 359).

Association Agreements; by definition, they cannot be subject to a waiver of international law rights. As well, the investors' participation in the Projects does not imply any waiver of rights contained in the BIT that governs the protection of the investment but not its substance.

d. The operation of the compensation provisions in the present case

184. The compensation provisions of the Association Agreements can be relevant in the present case to the extent only that a particular Government's measure meets all the requirements for their application.

185. In this respect, the raising of the income tax from 34% to 50% and the 33⅓% royalty/extraction tax that was in place at the time of the expropriation is no longer an issue. In its 2013 Decision, the Tribunal concluded that while the Claimants accepted to treat income tax and royalty rates as taxes, they constituted a fiscal regime that did not fall within the scope of Article 3 of the BIT, and that – as accepted by the Claimants – these measures (as they were at that time applicable) did not breach Article 4 of the BIT (para. 322). Moreover, these governmental measures are not invoked, in the present case, as discriminatory actions triggering the application of the compensation provisions. The Claimants rely on their experts' approach of including in their damages calculations all existing taxes at each valuation date, with the exception of the windfall profit tax[43].

186. This has the effect that the windfall profit tax introduced in April 2008 and amended several times is the only measure which may need to be considered for the application of the compensation provisions.

187. It has been argued by the Respondent, relying mostly on Dr. Mommer's statement and the policy he tried to implement when he was a member of the Government, and still supported later on, that Venezuela would persist in exercising its sovereign power to capture excess profits resulting from oil prices above the agreed price caps. It is thus submitted that "had the 2007 nationalization not taken place, the Government would have exercised its full taxing power to take such profit as it was entitled to do"[44]. There is no legal basis for the Claimants' assumption to take full profit of post-nationalization price increases while ignoring all factors negatively affecting project economics, in particular those, such as taxes, that were virtually certain to materialize. The Tribunal notes, however, that leaving aside the windfall profit tax, including its amendments, no evidence has been submitted that would demonstrate that such a policy was seriously envisaged or on its way to be implemented. The highest level of exorbitant prices that this legislation was taking into

[43] Claimants' 2017 Post-Hearing Brief, para. 186; TR-E, 2017 March Hearing, Day 15, p. 4379:5-8 (Friedman); Abdala/Spiller, March 2016 Update, 18 March 2016, para. 28.

[44] Respondent's Counter-Memorial on Quantum, 18 August 2014, para. 138; Respondent's Final Brief on Quantum, para. 263.

account was US$ 110 per barrel[45]; since 2007, such level was never reached. It appears therefore as simple speculation when the Respondent argues that the Government was prepared to raise windfall profit taxes. Thus, the Tribunal must conclude that the evidence does not demonstrate any probability that any measure capturing profits in excess of the actual windfall profit tax would affect the Claimants' interest in the future and until the end of the life of the Projects.

188. Therefore, the actual windfall profit tax is the only hypothesis where the compensation provisions may have played a role or may need to be considered when determining the value of the Projects and the revenues of its participants. However, prior to arriving at this stage, the question will have to be examined whether such tax was capable of being applied to the Projects, in full or in part. All these issues being closely interrelated, they will have to be examined all together in their proper context, in Sections IX and X of this Award.

C. The Standard of Compensation

189. The Parties' focus when addressing the structure of the claims for damages to be considered in the present case is closely related to the valuation date to be taken into account. The 2013 Decision determined that this date should be the date of the award (paras. 363, 404). Such date reflects the Claimants' position. The Respondent objects to this conclusion and strongly supports the date of the expropriation as the valuation date.

190. The debate about the relevant valuation date needs to be looked at from a larger perspective, which is the compensation the Claimants are entitled to claim as a consequence of the breach of Article 6 of the BIT.

191. The Respondent's position is, as a matter of principle, that the compensation should represent the value of what has been taken away, which are the Association Agreements, including their compensation provisions (not applicable to Corocoro), and this at the time when such taking was enforced, on 26 June 2007. The hypothetical that has often been used is that of a reasonable buyer considering taking over the Association Agreements at that date. Simply put, such a buyer would evaluate the assets of the Projects and add his estimation of the net revenues reasonably to be projected in the future. As the participants in the Projects can be compared to such a reasonable buyer, their estimation of the assets and their projections of the future (generally called "models") may serve as a most useful working tool to reach a result coming close to what would become the conclusion of a hypothetical reasonable buyer.

192. Such position and method does not operate in actual terms. It does not include production, costs and taxes as they accrue since the taking up to the time when the award is made, nor does it

[45] Article 6 of Decree No. 40.114 of 20 February 2013 (R-502, C-600), amending Article 9(3) of Decree No. 8.807 of 15 April 2008 (R-500, C-252/582).

determine the future economics of the Projects between the date of the award and the end of the Projects' lifetime.

193. The difference of approach is a matter of law. It is a matter of international law. As has been explained above, the expropriation enforced by Venezuela in breach of Article 6 of the BIT triggers effects under international law. The standard of compensation is not determined by the Association Agreements and their compensation provisions. Notwithstanding this, these provisions may have an impact on the value of the taking and thus on the amount of damages.

194. The Tribunal directed the Parties in Procedural Order No. 4 to determine their valuations for both situations, at the date of the expropriation, *i.e.* 26 June 2007, or on 31 December 2016, by taking into account, or not taking into account, the compensation formulas contained in the Association Agreements (para. 6). The Parties have basically complied with the Tribunal's direction. However, they only considered the hypothesis of the application of the compensation provisions, *i.e*. that the expropriation as such would have been governed by these provisions. Little consideration was thus left for the case where compensation for the expropriation is governed by international law, while including effects to be given to the compensation provisions of the Association Agreements in respect of those economic inputs that qualify as "Discriminatory Actions".

195. The matter of the standard of compensation applicable in the present case under international law needs to be clarified first, before the meaning of a specific valuation date can be determined.

1. The Claimants' Position

196. The Claimants' approach in support of their claims is repeatedly based on "full reparation". This results from settled principles of international law. Because Venezuela's expropriation was unlawful, the Claimants must receive the substantial cash flows produced by the Projects since the expropriation. The host State cannot receive the full benefit of the Claimants' investment and thus draw from the expropriation revenue exponentially increasing through higher oil prices, in a total amount many times higher than the compensation it would have accepted to pay if it would have been calculated at the time of the taking.

197. The Claimants submit that had Venezuela expropriated lawfully the Claimants' investments, then the standard of compensation set out in Article 6(c) of the BIT would have applied. Because Venezuela acted unlawfully, that Article does not apply to quantification. Instead, the applicable standard of compensation is fixed by customary international law. An "essential principle" of customary international law is that a State is under an obligation to make full reparation for the injury caused by its wrongful act.

198. An authoritative description of the applicable standard of compensation has been provided by the Permanent Court of International Justice (PCIJ) in the *Chorzów Factory* case[46]. "Reparation must, as far as possible, wipe out all the consequences of the illegal act and reestablish the situation which would, in all probability, have existed if that act had not been committed." (p. 47) The ILC Articles reflect the same customary international law rule (CL-85). They require that a State provides "full reparation for the injury caused by [its] internationally wrongful act". Accordingly, where an asset has been expropriated unlawfully, a tribunal's task is to place the investor in the economic position that the investor would have enjoyed had the wrongful act never occurred. This is often referred to as the "but-for" position. The preferred remedy is restitution. Where restitution is impossible or impracticable, as is the case here, the rule of full reparation requires an award of damages that accomplishes the same result. Compensation for an unlawful expropriation must correspond to the value which restitution in kind would produce, in addition to payment for any additional losses.

199. If the Claimants' interests in the three Projects had not been unlawfully expropriated, the Claimants would have remained in possession of them and profited from their operations for their full term. In particular, the Claimants would have received, from June 2007 onwards, dividends representing their share of the profits in accordance with their ownership interest. The most common method for calculating such value is to determine the fair market value on the date of valuation, as this is stated in the Commentary to the ILC Articles (CL-86). Such value reflects the lost earnings that an investor would have received but-for the expropriation. In cases involving revenue-producing assets, an assessment of fair market value must compensate their future profitability in order to provide full reparation.

200. Both the Petrozuata and Hamaca Projects were oil fields in full commercial production at the time of their confiscation, and they will continue to be producing oil through the date of the Award and for many years thereafter. The Corocoro Project became a producing oil field in January 2008 and will continue to be producing through at least 2021. The Projects' Reserves and production capacity are known, and their hydrocarbon products are commodities for which a broad market with international price benchmarks exists. The discount cash flow methodology used by the Claimants' experts properly calculates that substantial value.

201. In the present case, the standard of compensation requires that (a) the Claimants be awarded compensation equivalent to the cash flows that they would have received had the Projects not been expropriated; (b) favorable market changes since the taking accrue to the benefit of the Claimants; and (c) value depressing measures adopted or permitted by Venezuela after the taking must be excluded from the calculation.

---

[46] Permanent Court of International Justice, *The Factory At Chorzów (Claim for Indemnity) (The Merits), Germany v. Poland*, Judgment No. 13, 13 September 1928, 1928 P.C.I.J. (ser. A) No. 17 (CL-84).

202. The principle of full reparation requires an award to the Claimants of: (1) Historical losses up to the date of the Award, in the amount of at least US$ 16.010 billion; (2) Lost profits from the date of the Award through the expiration dates of the Association Agreements, in the amount of at least US$ 5.276 billion; (3) Post-award interest, calculated using the Projects' cost of equity; (4) A declaration that the amount awarded is net of taxes, and may not be taxed again by Venezuela; (5) All of the Claimants' costs of arbitration.

2. The Respondent's Position

203. The Respondent recalls that the expropriation was decreed under Venezuelan Law and that the Tribunal has concluded that the requirements set in Article 6(1) and (2) of the BIT have been fulfilled. Therefore, the expropriation was legal and fully effective. The Tribunal's conclusion that no compensation had been paid affects one of the modalities of the expropriation, but does not render this measure illegal. Therefore, the compensation the Claimants are entitled to is the compensation that they did not receive when they had been expropriated. Their compensation must thus be necessarily based on the value of the Projects at the time of their taking, including an amount representing the estimations of future profits and losses reasonably calculated at that same time.

204. The Respondent relies on Sir Ian Brownlie who defined the distinction between an expropriation unlawful only *sub modo* and one unlawful *per se* as follows:

> The practical distinctions between expropriation unlawful *sub modo*, i.e. only if no provision is made for compensation, and expropriation unlawful *per se* would seem to be these: the former involves a duty to pay compensation only for direct losses, i.e. the value of the property, the latter involves liability for consequential loss (*lucrum cessans*); the former confers a title which is recognized in foreign courts (and international tribunals), the latter produces no valid title[47].

205. The Respondent submits that under Article 9(3) of the BIT, this Tribunal in any event would have no authority to award damages beyond those "caused" by a breach of a Treaty provision. Even assuming that there is a breach due to a failure to pay or make a concrete offer of compensation, there are no damages resulting from a breach other than the compensation that should have been paid in 2007 plus interest.

206. Using the valuation date of 26 June 2007 and applying the compensation provisions of the Petrozuata and Hamaca Projects, the Respondent calculates a compensation in the total amount of 471 US$ million, which may, if the Tribunal so decides, be increased by the end of 2016 by simple interest to 515 US$ million, any such amount being reduced by the Respondent's costs.

---

[47] Ian Brownlie, Principles of Public International Law, 7th ed. Oxford 2008, p. 539 (R-124). The Respondent also refers to James Crawford, Brownlie's Principles of Public International Law, p. 625 (R-631).

3. *The Tribunal's Findings*

207. The Tribunal considers it unnecessary to provide lengthy quotations from the *Chorzów* Judgment. Nevertheless, the main *ratio decidendi* must be recalled, albeit as concisely as possible.

208. The Court's Judgment was based on "the rules of international law in force between the two States concerned". Rights or interests of an individual are "on a different plane". The damage suffered by an individual is "never therefore identical in kind with that which will be suffered by a State" (p. 28). It needs also to be added that when one refers to Article 31 of the ILC Articles (CL-85), the provisions on State responsibility are "without prejudice to any right, arising from the international responsibility of a State, which may accrue directly to any person or entity other than a State" (Art. 33(2)).

209. As to the applicable principle on damages, the Court stated that the damage suffered by one of the two companies involved (named "the Oberschlesische") is "equivalent to the total value – but to that total value only – of the property, rights and interests of this Company" (p. 31). The principle establishing the obligation to make reparation is the indispensable complement of a failure to apply a convention. It is "an element of positive international law" (p. 29)[48].

210. In the *Chorzów* case, the Court was not seized with a claim for compensation in relation to an expropriation, because under the applicable provisions of the Geneva Convention concerning Upper Silesia concluded on 13 May 1922 between Germany and Poland, an expropriation was not permitted even against compensation. Therefore, reparation was the consequence not of the application of Articles 6 to 22 of the Geneva Convention, "but of acts contrary to those articles", *i.e.* dispossession (p. 46).

211. The Court noted that the compensation due to the German Government is not necessarily limited to the value of the undertaking at the moment of dispossession, plus interest to the day of payment. If the Polish Government had the right to expropriate and its wrongful act therefore consisted merely in not having paid the just price for what was expropriated, compensation would be limited to such value. This would put Germany in a situation "more unfavourable" than that in which Germany would be placed if Poland had respected the Convention, *i.e.* if it had not acted as it did. This would be "unjust". Moreover, "it would be tantamount to rendering lawful liquidation and unlawful dispossession indistinguishable in so far as their financial results are concerned" (p. 47).

---

[48] The *Teinver* Tribunal sought to make it more precise: "The *Chorzów Factory* case is not the source of the customary international law principle of full reparation, but the tribunal in that case determined that that principle was one that had been established by international practice." *Teinver S.A.*, et al. *v. The Argentine Republic*, ICSID Case No. ARB/09/1, Award dated 21 July 2017, para. 1089.

212. The distinction made by the Court applies in other situations as well. An expropriation enforced legally except for not being compensated puts the aggrieved party in a situation more unfavourable than that in which it would be placed if such expropriation had not been made. In the latter case, that party would enjoy the full benefit of the property, rights and interests that have been taken away. In the former situation, it would have received a "just compensation" in an amount that is different and generally lower than the benefit of the on-going enjoyment of all that has been taken away.

213. However, the present case is different. While still following the Court's reasoning, an expropriation enforced legally except for not being compensated puts the aggrieved party in a situation more unfavourable than that in which it would be placed if such expropriation had been made in compliance with all legal requirements. Indeed, the difference between these two situations, which puts that party in a more unfavourable position, consists in the lack of payment of the compensation that the expropriating party was required to pay.

214. Such a difference cannot be reduced to a simple matter of interest to be paid. If the expropriation had to be compensated by reference to the market price at the date when it was enforced, the value of this compensation – if it has not been paid – does not increase merely by a factor based on a rate of interest. At a later date, the value of the expropriated property, rights and interests is different, usually by reference to a higher market price. Such difference has nothing to do with interest. The value of an investment in a business (not consisting merely of placing money in a bank account) is progressing on a line which cannot be compared to the rate of interest.

215. The *Chorzów* Court did not elaborate on such a hypothesis. It simply compared the actual case to the financial situation of Germany in a case where Poland would have been entitled to expropriate but merely omitted to pay a just price. The main point still stands: The investor or the otherwise aggrieved party should not be dealt with more unfavourably by the adjudicating tribunal through "just compensation", including interest, while it was entitled not to be expropriated without just compensation determined by reference to market value at the time of the taking. When such compensation was one of the legal requirements to operate an expropriation, the fact of not proceeding with such payment renders the expropriation unlawful and triggers the financial consequences of the loss of the property, rights and interests that have been taken.

216. The same line of arguments applies to the expropriating host State. If compensation was awarded a certain time after the taking as the "just price" for what was expropriated, together with interest, the host State would be treated more favourably than the situation it would face with an expropriation that should not have taken place without compensation. If there had been no expropriation, the investor would have enjoyed the revenues and the increase in the market value of the property, rights and interests. If no account was made of such increase in value, the financial result

would be indistinguishable from the situation where compensation had been paid on time in compliance with the legal requirements. The host State would thus take advantage of all financial accruals, to the extent they are higher than the interest rate it would have to pay on the "just price" settled at the time of the taking. In the words of the Court, such result would be "unjust".

217. In a number of awards and various writings, a distinction is made between unlawful and lawful expropriations. The latter expression is reserved for a case where the expropriation complies with the legal requirements except that no or insufficient compensation has been provided. The *Chorzów* Judgment is sometimes used to support such terminology. Such interpretation of the *Chorzów* Judgment goes too far. The Court did not use the term "legal" or "lawful" expropriation for a situation where the expropriator's "wrongful act" ("son tort") consisted merely in having not paid the just price of what was expropriated (p. 47)[49]. On another occurrence, the Court notes that if an expropriation were to be envisaged, the payment of fair compensation would have rendered it lawful[50] – thus including the requirement for compensation in the notion of lawful expropriation, and its omission as keeping the expropriation unlawful.

218. Sir Ian Brownlie's *dictum* relied upon by the Respondent, is not pertinent. The Respondent's own submission is not as severe as Sir Ian appears to be, because the Respondent accepts to take into account the projections of future profits *(lucrum cessans)* which are not included in Sir Ian's notion of an expropriation unlawful *sub modo*. The Respondent adds its own interpretation of Sir Ian's statement that it omits to quote fully and in context[51]. When reading the parts preceding the sentence quoted by the Respondent, it is easy to understand that Sir Ian did not address the factor of time. He did not say that an expropriation is lawful if only payment of effective compensation is missing, and that it remains so for the future. The learned author only addressed the situation at the time of the taking. Further, when referring to an expropriation not accompanied by compensation, he uses, indeed, the expression of "unlawful *sub modo*" (by contrast to an expropriation unlawful *per se*). Thus, even when considered *sub modo*, such expropriation is nevertheless, in Sir Ian's view, "unlawful". Sir Ian's "Compensation Rule" confirms the distinction:

> The expropriation of alien property is lawful if prompt, adequate, and effective compensation is provided for. In principle, therefore, expropriation, as an exercise of territorial competence, is lawful, but the compensation rule (in this version) makes the legality conditional[52].

[49] In this connection, the Court uses the expression "lawful liquidation", « liquidation licite ».

[50] "to render which lawful only the payment of fair compensation would have been wanting" – « à laquelle n'aurait manqué, pour être légitime, que le paiement d'une indemnité équitable » (p. 46, No. 123).

[51] Ian Brownlie, Principles of Public International Law, p. 538/539 (R-124). The Respondent also refers to James Crawford, Brownlie's Principles of Public International Law, p. 625 (R-631), where no delayed payment of compensation is mentioned.

[52] Brownlie, *ibidem*, p. 533/4.

219. The correct terminology does not really matter, although it may be noted that the use of the expression "lawful expropriation" seems not to be the most appropriate when it implies that one of the key elements of an expropriation – compensation – is missing. In any event, the focus must be on the significance of such term as it is used in a number of awards. It should mean, indeed, that the investor that suffered an expropriation that was otherwise "lawful" (except for the non-payment of compensation), is not entitled to claim for more than the payment by the host State of such compensation reflecting the market value of the investment at the moment of the expropriation, plus interest to the day of payment.

220. Thus, the *Tidewater* Tribunal concluded "that compensation for a lawful expropriation is fair compensation represented by the value of the undertaking at the moment of dispossession and reparation in case of unlawful expropriation is restitution in kind or its monetary equivalent"[53]. The *Mobil* Tribunal stated that "the mere fact that an investor has not received compensation does not in itself render an expropriation unlawful"[54].

221. In a number of cases, the difference between the compensation as determined at the moment of the expropriation and the assessment of damages resulting from the omission to provide for such payment at that time is of limited or no impact. Indeed, the assessment of the just compensation to be paid by the host State is usually based on market value or similar concepts that include consideration of prospective revenues and costs. The result may thus often come close to an assessment of actual revenues and expenses accumulated at the time of the award. This explains why many awards do not entertain any debate about the proper time for assessing damages, simply stating that the investor is entitled to be paid the compensation it did not receive when the expropriation took place, plus interest. The proper distinctions to be made are sometimes further diluted when it is stated that the investor shall receive compensation as it should have been paid at the time of the expropriation, while a number of particular items of revenue and costs are then quantified by reference to more recent or actual values.

222. Other cases are different and so is the situation in the present case.

223. Article 6 of the BIT is structured in three parts, each part representing one of the three conditions to be fulfilled to render an expropriation admissible under the BIT. The allocation of a "just compensation" is one of those requirements. As the Tribunal has concluded and explained in

[53] *Tidewater Investment SRL, Tidewaterr Caribe, C.A. v. The Bolivarian Republic of Venezuela*, Award of 13 March 2015, para. 142, and further paras. 130-146, 159-163 (R-642). The Tribunal observes at one point that an expropriation only wanting fair compensation has to be considered as a "provisionally lawful expropriation" (para. 141). However, to take the quality as "provisional" away, the simple award of compensation is not sufficient. And the Tribunal has no power to state such a declaration that it was not requested to make by the claimants.

[54] *Mobil Corporation, Venezuela Holding, B.V. et al. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/27, Award of 9 October 2014, para. 301 (CL-348).

its 2017 Interim Decision, this requirement has not been fulfilled by the Respondent. Therefore, one of the three cumulatively applicable requirements has not been met, and Article 6 of the BIT has been breached. Such unlawful act calls for reparation of the Claimants' losses.

224. According to the well-known principle settled in the *Chorzów* Judgment, "reparation must, as far as possible, wipe-out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed." (p. 47). Assuming that restitution in kind is not possible, the amount of compensation should correspond to a sum reflecting the value which a restitution in kind would bear, and damages for loss sustained which would not otherwise be covered. The dispossession involves the obligation to restore the undertaking and, if this is not possible, to pay its value at the time of the indemnification. To this obligation must be added that of compensating loss sustained as the result of the seizure. Thus, the reparation is about substituting payment of the value of the undertaking for restitution (p. 48). The Court added that these principles do not apply as if "an expropriation properly so called was involved." (p. 48).

225. When instructing the experts on their enquiry on the valuation to be retained, the *Chorzów* Court asked for the value of the undertaking for the manufacture of nitrate products at the date of dispossession, and the financial results current at the present time (profits or losses). This question had to cover the monetary value, both of the object of the undertaking, together with any probable profit ("*lucrum cessans*") that would have accrued to it between the taking of possession and that of the expert opinion[55]. While the note of the Court that these principles are different from those applicable in the case of an expropriation must be kept in mind, it can be concluded that when considering "wiping-out" all the consequences of an unlawful expropriation, the situation of the investor has to be addressed as it would, in all probability, have existed if that unlawful taking had not taken place.

226. If this was not accepted and the right to compensation was limited to the amount of "just compensation" referred to in Article 6(c) of the BIT, there would be no reparation of the wrong committed by the Respondent. The resulting compensation would simply be deferred from July 2007 to the date of this Award, together with interest. There would be no sanction of a manifest breach of the provision of Article 6(c) of the BIT, which implies a breach of Article 6 as a whole when prohibiting expropriation as long as one of the three pertinent conditions is not fulfilled. In the meantime, in the period between the taking and the rendering of this Award, the Projects would operate as decided by the Venezuelan Government and with all the benefits accruing to them, in particular when taking into account the increase in oil prices. This is not what the BIT provides and international law allows.

[55] p. 51-53, No. 136, 141.

227. The consequence of the unlawful expropriation and the purpose of reparation are to make the Claimants whole. If reparation consisted only in providing compensation as it had to be paid at the time of taking, plus interest, the Claimants would be deprived of the difference between the market value estimated at that time and the benefit of the Projects actually accruing since the expropriation and the date of this Award and in the future until the end of the Projects' lifetime. The Respondent would thus acquire, through the expropriation, profits available to the Claimants through the Projects above the range of the market value that would serve as reference to the determination of the "just compensation" at the time of the taking. For this part of the expropriation, no compensation would ever be paid. Such a result is implied in a compensation scheme as provided by Article 6(c) of the BIT, provided payment occurs at the same time. If such compensation is not effectively made or differed, the expropriating State would take on both levels: no account is provided for the market value at the date of the taking, and the full actual and future value of the Projects as from that date accrues to the State. Making, under such circumstances, the Claimants' whole means that "just compensation" as valued at the time of the expropriation cannot be achieved.

228. The Tribunal adds that the proper identification of the remedy for a violation of the BIT should respect the object and purpose of the BIT as this must apply to the BIT's provisions on investment protection in general. If "just compensation" is determined as per the date of the expropriation, and taken forward through a simple rate of interest, the host State would draw a clear advantage from its taking, as it did in the present case. Thus, such interpretation would result in an incentive for host States to expropriate investments and to defer payment of compensation until an undetermined future date. Such an approach would defeat the purpose of "protection of investment" that is the object of the BIT as stated in its Preamble.

229. An approach taking account of the future economics of the Projects requires a further clarification in respect of the date when the pertinent values in relation to the Projects have to be determined. An expropriation consisting of a single taking is valued as of the date of such taking. This is true, however, only by reference to that particular date. When time goes on, values change. Revenues may go up, costs are developing differently, and taxes may increase. In the present case, the rising oil prices are the main factor which informs the debate on the fixing of the appropriate valuation date. It led this Tribunal to determine in its 2013 Decision that this date shall be the date of this Award.

D. Valuation Date and Method

230. In the context of the debate between the Parties, the question is whether the relevant elements for the assessment of damages (including revenues, costs, taxes and others) are those applied or known at the time of the expropriation, or those at the time when the judgment has to be made about the damages accrued until that day and those arising as of that day. This is why, the Parties

are at odds between an *ex ante* valuation and an *ex post* valuation. The matter is closely linked to the applicable standard of compensation. If the Claimants' compensation is what they did not receive when they had been expropriated, the value of their loss must be assessed *ex ante*, as of the day of the taking, including an estimation prevailing at that time in respect of profits, losses and costs and other relevant items, occurring in the future. If, on the other hand, the Claimants are entitled to receive compensation for all revenues and net profits they would have earned had the Projects not been expropriated, the valuation has to be made by including all available actual (historical) and future data, which results in a valuation focusing on the matter from an *ex post* viewpoint.

1. The Claimants' Position

231. Consistent with settled law, it follows for the Claimants that their right to full reparation has as its necessary consequence that the date of valuation must be the date of the Award.

232. As a result of the improving market conditions all three Projects have increased in value following their confiscation. The Claimants are entitled to the benefit of those market improvements; they would have benefited from them had the Projects not been illegally taken. The consequences of any mismanagement of the Projects by PDVSA cannot be considered in the valuation, since this would not have occurred in the "but-for" world.

233. The Tribunal has already determined that the valuation date is the date of the Award. Accordingly, the Tribunal's valuation should take account of market developments subsequent to the taking that have increased the value of the Projects. Therefore, what remains to be calculated in the Claimants view is (a) lost historical cash flows: Forgone cash flows from the Projects between the date of the taking (26 June 2007) and the date of the Tribunal's Award, with a capitalization factor applied to actualize the lost historical cash flows to present value. (b) The equity value of the investments at the valuation date: Lost cash flows from the date of the Award through the end date of the Agreements, calculated using a DCF method to reduce those future cash flows to present value. (c) Post-award interest on all sums awarded from the date of Award to the date of payment. (d) Arbitration costs.

2. The Respondent's Position

234. For the Respondent, there is no basis for departing from the Treaty valuation date. This date is defined by Article 6(c) which states that the market value to be referred to is either the date "immediately before the measures were taken or the impending measures became public knowledge, whichever is the earlier". But even if the Tribunal could depart from the Treaty standard and look to customary international law, the result would be exactly the same.

235. In this respect, the Respondent submits that the normal valuation date in expropriation cases is the date of dispossession and that the valuation date does not change if the expropriation is one "to render which lawful only the payment of fair compensation would have been wanting", as stated in *Chorzów Factory*[56]. The authorities, including this decision, are crystal clear that where the only basis for unlawfulness is failure to pay compensation, the valuation date remains the date of dispossession because the damages are calculated based on the amount of compensation that should have been paid at that date, plus interest until the date of payment.

236. Relying on Sir Ian Brownlie's statement, quoted above, the Respondent contends that the valuation date in the case of an expropriation that at worst is only unlawful *sub modo*, rather than *per se*, is the date of dispossession because damages for such an expropriation consist of the value of the property expropriated as of that date, plus interest to the date of payment.

237. The Respondent explains that the *ex ante* valuations takes into account production, cost and price information that are considered relevant as of the 2007 valuation date. The Claimants' approach to such a valuation is not different. The difference between the Parties' valuations results from their difference in the *ex ante* production projections, because the Claimants take a much more optimistic view of the condition of the Petrozuata field and the Hamaca upgrader than the Respondent does as of the 2007 valuation date. Although an *ex post* valuation is supposed to be based on what actually happened in the Projects after the 2007 nationalization, the Claimants avoid considering *ex post* data that negatively affects value, thus submitting a hybrid valuation that bears no relationship with actual facts. The Respondent notes than when this Tribunal examines what actually happened, it cannot ignore the negative developments in the Projects in terms of both production and costs.

3. The Tribunal's Findings

a. The Parties' positions

238. The Tribunal observes that while the Parties present their respective positions with strong arguments, they are not always consistent.

239. The Claimants' *ex post* valuation approach would require, in theory, taking into account all available data on production, costs and other relevant factors of economics at the actual date and in moving data forward up to the date of judgment. This is not what they have always done, and it is not what their experts have done. Thus, they have taken the pre-expropriation production forecasts as the appropriate source for determining oil production in the but-for world. The Respondent pointed to the Claimants' preference to identify costs on the basis of costs accrued and projected

[56] Quoting the *Chorzów* Judgment, p. 46.

costs before the date of expropriation, arguing that the costs listed by the Respondent were *in toto* not reliable and unpersuasive; here again, such approach is like turning suddenly to an *ex ante* valuation, while an *ex post* approach would have required a closer examination of the evidence presented by the Respondent in respect of costs incurred since June 2007.

240. The Respondent, on the other hand does not conduct consistently an *ex ante* valuation that it claims should be the only relevant for this Tribunal. Such valuation would require taking all facts as they existed at the date of the expropriation, including the projections of the future on the basis of the best knowledge then available. In other words, the approach would have to be the one adopted by a reasonable buyer at that very moment, and nothing else. A correct date-of-expropriation valuation would not use the figures for production in year 2008, nor the forecasts prepared by Mr. Figuera in 2009, which projects the recovery of 653 million barrels of EHCO – substantially less than expected by all Parties prior to the expropriation[57]. An *ex ante* valuation would require that costs and taxes that could not have been reasonably envisaged at the time of the taking are not taken into account. This was not always done, for reasons that one can understand quite easily, but this approach is nevertheless not consistent with an *ex ante* calculation. The same is true in respect of additional expenses for the lease of the Interim Processing Facility (IPF) in the period between 2007-2012 at Corocoro[58]. Finally, a factual event that occurred before the date pertinent for the *ex ante* observation (*i.e.* 26 June 2007) must be identical to the same fact evaluated from an *ex post* perspective. For instance, when an upgrader's capacity is estimated as above 90% OSF in the year 2006, as observed at the date of the expropriation, this figure cannot become 75% simply because different information was provided in later years and integrated in the *ex post* valuation[59]. The best evidence must be the same from both perspectives when relating to a fact prior to the *ex ante* point of time.

241. In fact, whether one takes a principled position of an *ex ante* or an *ex post* valuation, none of these approaches can be conducted according to its own logic. Two main factors explain this. (1) The pressure of actual data often prevails. There is often no point in relying on hypothetical facts that have proven to be wrong. (2) On the other hand, there are occurrences where actual data are either not available or not reliable, leaving no other choice but to turn to projections that have been prepared carefully and agreed upon by those involved at the relevant time before the expropriation became effective.

[57] Cf. Respondent's Final Brief on Quantum, paras. 113, using figures provided by Figuera, Testimony, 20 July 2009, paras. 26-30, which were in part based on actual information for the years 2008 and 2009. The same approach was followed for Hamaca. At the 2017 September Hearing, Counsel of the Respondent admitted that with the actual figures presented for the second part of 2007 and for year 2008, they were not presenting *ex ante* projections; TR-E, 2017 September Hearing, Day 17, p. 4891:3-14 (Preziosi).

[58] Cf. Respondent's Final Brief on Quantum, paras. 174, 182-188.

[59] Cf., *ibidem*, paras. 139, 345.

242. The Respondent's experts have presented an article that explains the operation of the two valuation methods and the bargain that divides them[60]. For the author, in an *ex ante* analysis, all damages projected after the date of the breach are present-value discounted back to the breach date to arrive at a damages amount as of that date; interest is then applied. In an *ex post* analysis, projected damages are present-valued to the date of trial. For the portion of damages between the breach date and the trial date (the interim period damages), a time-value of money factor is applied forward to the trial date; and the projected damages after the trial date (the post-interim period damages) are present-value discounted back to the date of trial. The challenge for an *ex ante* analysis is that ignoring subsequent information may artificially ignore actual impacts to the plaintiff that, if considered, would result in a more precise estimate of the plaintiff's loss. In contrast, an *ex post* approach effectively attempts to put the plaintiff in the position he or she would have been in on the date of trial but-for the actions of the defendant. In evaluating both approaches, the effect of the interim period events on the plaintiff should be considered. Depending on whether the predominant economic factors affected positively or negatively the performance of the plaintiff, the plaintiff would be in a better or a worse position based on an *ex post* option, and the reverse would be the case when considering facts *ex ante* only. The question is then whether the defendant should not bear the risk of uncertainty produced by the act. If the defendant has not gained as a result of the act, an argument that plaintiff may be overcompensated via an *ex post* analysis may not carry much weight[61]. However, a damages award that returns the plaintiff to its economic position at the date of the injury, but leaves the defendant with a gain as a result of his action may not be appropriate and not deter future unlawful acts.

243. The comparison between the two valuation methods that are at the centre of the Parties' debate shows that one or the other cannot be adopted without a number of adjustments. The legal components should be looked at more in depth.

b. The appropriate time factors

244. In its 2013 Decision, the Tribunal stated that it did not consider that the amount of the compensation payable in respect of an unlawful taking of an investment is to be determined under Article 6(c) of the BIT. This provision establishes a condition to be met if the expropriation is in

[60] Stephen L. Buffo, Readings from the Book of Wisdom: Ex Post versus Ex Ante Damages, Stout, Risius Ross 2014, Brailovsky/Flores, Appendix 392. The experts refer to this article for the purpose of explaining what an *ex post* valuation should be, but they do not elaborate on the definition of an *ex ante* valuation, nor on the author's comparison of the two methods. Cf. Valuation Update, 18 March 2016, para. 41; Valuation Update Reply, 21 April 2016, para. 19.

[61] In any event, in such a case, the loss must stay with the expropriating host State. The investor should not receive less than an investor who was hit by an expropriation fully complying with the BIT. Cf., for instance, in *Siemens A.G. v. The Argentine Republic*, ICSID Case No. ARB/02/8, the Award of 6 February 2007 (CL-43), concluding that the claimant was entitled not just to the value of its enterprise as of the date of the expropriation, but also to any greater value that enterprise has gained up to the date of the award, plus any consequential damages (para. 352).

all other respects in accordance with Article 6. The Tribunal concluded on the basis of principle and the authorities it had reviewed, that if the taking was unlawful, the date of valuation is the date of the award.

245. Article 6(c) of the BIT governs the compensation to be paid by the expropriating State at the time of the taking. It does not deal with the consequences of its breach. If one would submit that Article 6(c) continues to be applicable and governs the Claimants' claim for reparation, this would mean that this provision continues to govern compensation, with the simple addition of interest. This is not what the provision says. It refers exclusively to the market value at the time of the taking. No reference can be found in the text that Article 6(c) would remain applicable in the future and for years to come for the purpose of calculating the investor's compensation, to which only interest is added.

246. The expropriation has the effect of transferring the market value of the Projects to the host State. At the same time, pursuant to Article 6(c), just compensation is to be paid to the investors by reference to the same market value. Both sides are thus basically placed on equal terms. If no compensation is paid, the host State acquires the Projects at their market value, plus the forthcoming profit, while the investors are left with the market value the Projects had in the past.

247. If no payment was made, an *ex ante* valuation that assumes that payment was made on the date of expropriation and calculates interest thereafter would result in the State taking advantage of whatever difference between the real profit of the business and the interest. Indeed, Article 6(c) provides for payment to be made at the date of expropriation, without any further alternative or escape clause. If no compensation has been made at the required time, the loss must be determined independently from this provision and it is to be compensated by the host State. Nowhere is it provided that such loss consists simply of interest.

248. An *ex ante* valuation makes sense only if it results in an *ex ante* payment. The hypothetical of a reasonable buyer considering the acquisition of the Projects, as presented by the Respondent, is a buyer who acquires the Project the very day when it has been taken away from the Claimants, and who pays the relevant amount at that date. A reasonable buyer who defers its acquisition to a later point in time will reconsider the market value of the Projects at that moment and pay the amount then corresponding to the actual market value. As prices move, up and down, the buyer will not suggest fixing price on the basis of an *ex ante* analysis (plus interest), and no seller would accept to make a deal on such basis.

249. The World Bank's Guidelines on the Treatment of Foreign Direct Investment cannot be understood otherwise. In its Chapter IV, payment of appropriate compensation is mentioned as one of the factors which allows a State to expropriate a foreign private investment. When declaring that such compensation must be adequate, effective and prompt, the implication is always that such

payment takes place at the same time as the taking. In case a "going concern" is involved, future income that could be expected with reasonable certainty over the course of its economic life is to be included in the calculation; this must imply an assessment at the time of the expropriation. If compensation had to be evaluated at a later stage, actual or historical facts would certainly prevail over any earlier projection on the enterprise's economic life in the future. Similarly, when a willing buyer is supposed to consider specific characteristics of the investment, "including the period in which it has been in existence", this specific element will certainly have to be updated to present value if the purchase has not taken place when it was supposed to take place, *i.e.* at the date of the expropriation. There is no point in trying to read the Guidelines to assert that the valuation of the expropriated investment shall in all cases be settled at the date of expropriation.

250. If payment is not made on the day of the expropriation, and is differed to later, plus interest, the expropriator takes advantage on a day-to-day basis of the difference between the profit resulting from the operation of the Projects (representing the investment that had been taken) and the applicable interest. An *ex post* valuation corrects the unequal treatment resulting from such a calculation, because it supports payment including the profit resulting from an investment that the host State had taken without the burden of financing its value.

251. In so doing, the host State takes the benefit of the value of the investment above the legal terms when it should have paid the compensation. The purpose of the compensation provision is to make whole the investor, in terms of equitable market values, at the time of payment. If such payment is not done and deferred for later, it must necessarily be determined again by reference to the market value prevailing at that time. This is then equivalent to an *ex post* valuation.

252. Taking an example for the purpose of illustration, when an oil production industry has a market value of 10 US$ billion at the time of expropriation and yields 10% of net profit, the host State, when not paying compensation and waiting for a judgment to be awarded some years later on the basis of an *ex ante* valuation (*i.e.* 10 billion), would earn 1 US$ billion per year as a result of an investment it did not provide itself, leaving the investors with interest at 300 million (3%), and the State with a net profit of 700 million. In fact, the investors will make a loss, because their costs for financing an investment of 10 US$ billion (still in the hands of the host State) are markedly higher than the interest rate of 3%. Thus, the host State receives more than the market value the investment had when it was expropriated. Such an extended taking has no basis in the provisions of Article 6 of the BIT.

253. When taking account of facts that occurred after the expropriation, and before or after the Award, the pertinence of the available information may be questioned in its causal relation to the situation of the Projects as they existed at the time of the expropriation. The reparation must re-

establish the Claimants in the situation which would, "in all probability"[62], have existed if the expropriation had not taken place. In this respect, an *ex post* valuation is linked to the *ex ante* situation under which the Projects were conducted when they were expropriated. Such a link cannot be reduced to a simple condition of foreseeability. Facts may be relevant for the assessment of the but-for world even if not foreseeable at the time of the taking, as long as they can be assessed with reasonable certainty as the consequences of the initial situation at the time of the taking. Such facts must be capable of being placed in a chain of events that, albeit not foreseeable at an earlier point in time, nevertheless appear as an occurrence that under a reasonable perspective appears as potential consequence of the expropriation and the loss represented by the taking away of the Projects from the Claimants[63].

254. An *ex ante* approach calculates revenues accruing as from the date of the breach on the basis of projections. Such revenues are then discounted back to the date of the breach. This is Respondent's position, using a rate of 19.8%. Compared to actual facts, this has the effect of reducing compensation in two ways: (1) Revenues accruing in the future above the projected figures profit to the State, and (2) to the extent that the discount rate is higher than the interest rate, the positive difference accrues to the host State as well. Such approach ignores artificially any impact on the Claimants in the future, which, if considered, would result in a more precise estimate of the Claimants' losses. That is precisely what an *ex post* valuation does.

255. Contrary to what has been suggested, the view that an expropriation incompatible with the BIT for the only reason that no compensation has been paid calls for a valuation at the date of the expropriation is not as broadly shared as this is sometimes argued[64].

256. In some cases, this solution was retained but for reasons different from the so-called "legal" nature of an expropriation which only lacks compensation. In the case of the *Crystallex* Award[65], the parties agreed that the proper date of valuation should be the date of expropriation. This was also the basis for the same solution for the *Saint-Gobain* Tribunal[66], with the additional element

[62] *Chorzów* Judgment, p. 47, 53.

[63] Cf. also the Award of 7 February 2017 *Burlington Resources, Inc. v. Republic of Ecuador*, ICSID Case No. ARB/08/5, para. 333, using however the foreseeability as the prevailing factor, while correctly stating that the injury suffered must have been caused by the wrongful act. The same reasoning can be found in *Quiborax S.A. & Non Metallic Minerals S.A. v. Plurinational State of Bolivia*, ICSID Case No. ARB/06/2, Award of 16 September 2015 (R-577), paras. 382/383.

[64] For an overview of the case law, *see* Steven R. Ratner, Compensation for Expropriations in a World of Investment Treaties: Beyond the Lawful/Unlawful Distinction, American Journal of International Law 2017 p. 7 ff., 15-18.

[65] *Crystallex International Corporation v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB(AF) 11/2, Award of 4 April 2016, para. 854.

[66] *Saint-Gobain Performance Plastics Europe v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/12/13, Decision on Liability and the Principles of Quantum of 30 December 2016, paras. 611-614 (R-655).

that in the particular case such valuation date yielded a higher value than the date-of-the-award valuation.

257. In other awards, compensation was simply treated as one of the conditions for an expropriation not prohibited under the BIT, with the effect that if no compensation has been paid, one of the Treaty requirements has not been complied with, resulting in an unlawful expropriation as if any of the other requirements had not been met. Accordingly, the *Crystallex* Award states as follows

> When a treaty cumulatively requires several conditions for a lawful expropriation, arbitral tribunals seem uniformly to hold that failure of any one of those conditions entails a breach of the expropriation provision[67].

The Tribunal then concluded

> Under the circumstances, the Tribunal cannot but conclude that Venezuela breached Article VII(1) of the Treaty, as no "prompt, adequate and effective compensation" was either offered or provided to Crystallex[68].

The *Crystallex* Tribunal referred to seven other awards considering the lack of payment of just compensation as a breach of the pertinent provision of the applicable BIT on expropriation[69]. The

[67] *Cristallex International Corporation v. Bolivarian Republic of Venezuela*, Award of 4 April 2016, para. 716.

[68] *Ibidem*, para. 717.

[69] *Bernardus Henricus Funnekotter et al. v. Republic of Zimbabwe*, ICSID Case No. ARB/05/6, Award of 22 April 2009, para. 98 ("The Tribunal observes that the conditions enumerated in Article 6 are cumulative. In other terms, if any of those conditions is violated, there is a breach of Article 6."); *Saluka Investments BV v. Czech Republic*, PCA/UNCITRAL, Partial Award of 17 March 2006, para. 266 (non-compliance with one or more of the conditions set out in Article 5 of the treaty would lead to the conclusion that the respondent has breached Article 5 of the Treaty); *Kardassopoulos v. Georgia*, ICSID Case Nos. ARB/05/18 and ARB/07/15, Award of 28 February 2010, para. 390 (noting that absence of due process is sufficient to support a finding that the expropriation was wrongful); *Compañía de Aguas del Aconquija SA and Vivendi Universal SA v. The Argentine Republic*, ICSID Case No ARB/97/3, Award of 20 August 2007 (CL-42), para. 7.5.21 (lack of compensation makes an expropriation unlawful); *Siag and Vecchi v. Egypt*, ICSID Case No ARB/05/15, Award of 11 May 2009, para. 428; *Marion & Reinhard Unglaube v. The Republic of Costa Rica*, ICSID Case Nos. ARB/08/1 and ARB/09/20, Award of 16 May 2012, para. 305; *Gemplus, S.A. and Talsud, S.A. v. Mexico*, ICSID Case Nos. ARB(AF)/04/3 and ARB (AF)/04/4, Award of 16 June 2010, para. 8-25 ("The Tribunal concludes that these expropriations were unlawful under the BITs and international law, given the facts found by the Tribunal and the further fact that the Respondent did not meet the condition required by Article 5 of both treaties regarding the payment of adequate compensation").

Quiborax[70], *Tenaris*[71] and *Burlington*[72] Awards can be added to the list. This Tribunal has decided accordingly in its Interim Decision.

258. The *Tidewater* Tribunal took a strong stand on the need for an *ex ante* valuation operated at the time of expropriation in case of a so-called "lawful" expropriation only missing just compensation[73]. In such a case valuation and compensation should assess damages as identified at the time of the expropriation, including what the investor expected at that time in terms of future profits and expansion. The facts known at the date of the expropriation are taken as the reference, as they are the only ones objectively related to the dispute[74].

259. The reasons underlying such position are based on the concern that an arbitral tribunal should avoid considering events occurring after the expropriation, such as the evolution of prices, potential expansion of the business or other circumstances that may appear as hypothetical or even speculative. Such a concern must certainly be taken seriously. However, it does not allow a broad conclusion that events occurring after the expropriation shall have no bearing on the tribunal's assessment of the loss suffered by the expropriated party and of the damages to be awarded. The *Chorzów* Judgment does not support such an understanding. In this case, the plaintiff was Germany that had no claim to raise in respect of future revenues of the manufacture in which it had no operational impact.

260. The *Tidewater* Tribunal's approach appears correct when reference is made to the date of the expropriation in all respects including the determination and payment of the just compensation due to the investor. If no compensation has been paid, however, valuation moves forward, and so does the profit accruing to the host State as from the date of the taking, and the loss suffered by the investor who did not receive the market value of its investment in return, being left with an expectation for late payment together with interest. The *Tidewater* Award serves to understand that in

[70] *Quiborax S.A. and Non Metallic Minerals S.A. v. Plurinational State of Bolivia,* ICSID Case No. ARB/06/2, Award dated 16 September 2015 (R-577), paras. 370-386.

[71] *Tenaris S.A. and Talta-Trading E Marketing Sociedade Unipessoal LDA v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/11/26, Award dated 29 January 2016, para. 481.

[72] *Burlington* Award, paras, 160, 176, 325-330, 409, 477, 531.

[73] *Tidewater Investment SRL and Tidewater Caribe, C.A. v. The Bolivarian Republic of Venezuela*, ICSID ARB/10/5, Award of 13 March 2015 (R-642), paras. 130-146, 159-163.

[74] The same position is shared by Arbitrator Brigitte Stern, who was a member of the *Tidewater* Tribunal, in her partially dissenting opinion to *Quiborax S.A. and Non Metallic Minerals S.A. v. Plurinational State of Bolivia,* ICSID Case No. ARB/06/2, Award dated 16 September 2015 (R-577). The dissenting arbitrator notes that an expropriation "which only lacks fair compensation to be lawful has to be treated as a potentially lawful expropriation (or a provisionally unlawful expropriation until the tribunal has awarded the compensation due for the expropriation to be legal)" (para. 17, emphasis omitted). However, the Tribunal's task in such a case is not to render an expropriation lawful that has not been lawful before, but to draw the legal consequences of an expropriation not complying with the law because not accompanied by the required compensation.

such cases, adjustments are needed. The Tribunal noted indeed, in further relying on the World Bank Guidelines, that an *ex ante* valuation does not mean that it would be unconcerned with future prospects. In the first place, the factors that a willing buyer would itself take into account when considering the purchase of an investment necessarily include "the circumstances in which it would operate in the future". In the second place, the Tribunal, when estimating values *ex ante*, is not required to shut its eyes to events subsequent to the date of injury, if these shed light in more concrete terms on the value applicable at the date of injury or validate the reasonableness of a valuation made at that date[75]. The Tribunal added, referring to the experts on both sides, that there may in particular cases be a real benefit in hindsight, because it allows for a reliable measurement of lost cash flows between the date of breach and a present date[76]. This is precisely what an *ex post* valuation allows: taking account of the actual facts that improve the assessment of those retained at the time before the expropriation when they represented mere projections towards a not yet known future. The focus must be on causation, meaning that *ex post* information should not introduce facts into the valuation that have no real connection with the expropriated assets[77]. However, if such risk exists which may materialize in certain situations, the proper solution has to be found through the correct application of the requirement of causation, including mitigating factors like intervening or concurrent causes, contributory negligence, or proportionality. This element is important and must be added as a factor of adjustment to what may appear extreme in an approach based on an *ex post* valuation. Such valuation, indeed, should not include facts and events that have no reasonable or adequate connection to the investment as it was implemented and conducted at the time of its expropriation. The question whether information or valuation must be determined *ex ante* or *ex post* is not adequately examined and answered without taking into account the interaction between both options through the necessary consideration of causation.

261. Therefore, an *ex* post valuation must be measured in relation to the content and the terms of the Association Agreement and the whole contractual environment on which the Projects were based. Production, costs, taxes, and all other components of an actual valuation are relevant to the extent only that they are caused or related to the Projects as they were created and conducted at the time when the expropriation occurred. This also means that new or additional production methods, equipments costs, etc. are not to be included in a valuation based on the framework pertinent in the present case when they have as their origin legal undertakings or operational choices that are unrelated to the original Projects.

262. This consideration represents the indispensable addition to a debate that simply opposes two different valuation dates. Indeed, if damages have to be evaluated as of a given date, they must be connected by a relation of causality to the injury, *e.g*. the expropriation. From the viewpoint of

---

[75] *Tidewater* Award, para. 160.

[76] *Ibidem*, para. 162.

[77] This is the main purpose of Arbitrator Stern in her dissenting opinion (cf. paras. 87-101).

the date of expropriation, impacts on damages occurring later are taken in consideration if they have a basis in the then existing projections and expectations, which means that they appear as the consequences of such factors. The *ex ante* information sets a bottom line from which the probability of the occurrence of events in the future can be assessed. Viewed from the other perspective, when evaluating damages as of the date of the decision, occurrences of a "but-for" nature that are not caused by the project or the legal setting that has been taken away through the expropriation are not included in the valuation. Looked at from one point or the other, the results will coincide in large parts, *i.e.* a valuation including all actual effects caused by the injury, together with all other related effects occurring in the future.

c. The evidence

263. The Tribunal notes that an *ex post* valuation places the focus on actual terms. However, it cannot be conducted without retaining approximate assumptions and projections. This is easy to understand in relation to future events, mostly relating to production, oil prices, costs and taxes. The situation is not clear cut in actual terms for the historical period since the expropriation and the date of this Award (also called the "Interim Period"). In this respect, it is true that theoretically all pertinent actual facts should be available to the Tribunal. This is not the case: Firstly, the Projects have been conducted differently than they would have moved forward had the Association Agreements remained applicable. Secondly, the evidence before this Tribunal is in many respects not representative of the real world or of the "but-for" world. The Tribunal must deal with the evidence present on its record, and it cannot rule by reference to evidence the Parties either could not or did not want to submit to the Tribunal.

264. The assessment of damages is not an exact science. It is a matter of law, and to the extent the pertinent factors of facts or economics are uncertain or associated with a margin of appreciation, the proper determination is one of the Tribunal's tasks. As stated in Arbitration Rule 34(1), the Tribunal shall be the judge of the admissibility of any evidence adduced and of its probative value. The Tribunal is thus granted full discretion in these matters. Such discretion applies also in respect of the weight to be assigned to the evidence proffered in respect of calculation of damages.

265. One of the characteristics of an *ex post* valuation is that for easily understandable practical reasons, the date of such valuation cannot be the precise date of the Award. The Tribunal has instructed the Parties in Procedural Order No. 4 to provide their *ex post* valuations on damages updated on 31 December 2016 (para. 6). The Parties have prepared their submissions accordingly. The Tribunal has decided not to ask for a subsequent update, being reluctant to engage in a further delay of the proceeding, and considering that the additional information then provided would not

have had a significant impact on the overall assessment of damages[78]. Therefore, the assessment of relevant evidence between early 2017 and the date of this Award is based on the information and projections available for the preceding period and the up-date requested for 31 December 2016.

266. The evidence in the present case is in large parts based on documents. A certain number of witnesses have submitted statements and have been heard. However, all of them have a limited personal knowledge of the life of the Projects, in particular, Mr. Lyons and Mr. Figuera, the main witnesses of fact presented by the Parties.

267. Mr. Lyons was General Manager of the Petrolera-Ameriven Joint Venture (Hamaca) from August 2003 to August 2005, when he became president of ConocoPhillips Venezuela and involved in Petrozuata as a Board Member and in Corocoro as an Executive, while he remained responsible for Hamaca as a Board Member. He left that function in April 2006 when he was appointed president of ConocoPhillips in Latin America. He served in that capacity until the end of 2008[79]. He retired from ConocoPhillips in 2012[80]. He was co-signatory of the Management Board Resolutions dated 22 May 2007 providing Power of Attorney to Counsel representing the Claimants in this proceeding (C-003).

268. Mr. Figuera was president of Petrozuata from January 2005 until December 2006. He was president of Hamaca from June 2006 until the expropriation and then of PetroPiar until December 2007. Since that date, he had no personal involvement in Hamaca or in Petrozuata since he left that company. In December 2007 he became president of PetroSucre until December 2008. In late 2011 he was appointed General Manager of the Junín Division, where he remained until late 2013. As he explained to the Tribunal, when he was General Manager, he had no direct oversight over the seven individual Projects that were part of the Division (including Petrozuata). He was not consulted nor did he review documents such as business plans for any project. Therefore, since he left the Projects, he had no personal knowledge and had to talk to people in order to be provided with information[81]. The actual data he used were given to him by the technical staff from PDVSA [82]. In his Testimony provided in 2009, Mr. Figuera stated that he was then General Manager of Offshore Joint Ventures of Corporación Venezolana del Petróleo S.A. ("CVP"), a 100% subsidiary of

[78] The Respondent has raised an objection at the 2017 September Hearing, claiming for a possibility to provide an updating of relevant facts after 31 December 2016 (TR-E, 2017 September Hearing, Day 17, p. 4831:15-4833:19, 4901:5-19 – Preziosi). The Tribunal is not convinced by the pertinence of the argument, further noting that the Respondent had not raised the argument earlier, while it had ample opportunity to do so since 19 August 2016 when Procedural Order No. 4 was issued. See above, two last paragraphs of Section I.

[79] He was the signatory of the formal Notice of Dispute submitted to the competent Venezuelan Governmental Authorities on 31 January 2007 (C-36).

[80] Cf. TR-E, 2017 February Hearing, Day 7, p. 1867-1869; 2017 March Hearing, Day 11, p. 3083/84, 3086.

[81] Cf. TR-E, 2017 February Hearing, Day 8, p. 2251-2265; 2017 March Hearing, Day 11, p. 3084-3086, 3236.

[82] TR-E, 2017 February Hearing, Day 9, p. 2755:12-2756:12.

PDVSA [83]; in this function, he had indirect involvement in the companies through the Board issues[84]. In 2014, he was Internal Director of this company, responsible among others of PetroSucre that operates the Corocoro field; he was then also Executive Director for new developments in the Orinoco Oil Belt[85]. In sum, Mr. Figuera did not have personal information to provide evidence as a Witness on facts relating to the operation of the Projects Petrozuata and Hamaca since early 2008.

269. None of the witnesses was able to testify on actual facts based on personal knowledge and covering the historical period between the expropriation up to 2015 or 2016, and in many cases, the information provided to the Tribunal is based on hearsay or documents gathered from other persons involved in the Projects who have not been asked to appear before this Tribunal. The evidentiary gaps had led some experts to take positions not reflecting the real situation of the Projects and to argue on the basis of assumptions not verified with actual facts, or not supplied with evidence on the Tribunal's record. The Tribunal also noted that the valuation experts on several occasions insisted that their analyses was limited by the instructions provided by their respective instructing Party. The experts' evidence, therefore, requires a close analysis as to its objectivity and reliability.

270. The Tribunal further notes that the remedy it will retain must be connected to actual facts and reflect the Tribunal's knowledge. The Award "shall state the reasons upon which it is based" (Art. 48(3) of the ICSID Convention, Arbitration Rule 47(1)(i)). Members of the Tribunal must be capable of exercising independent judgment (Art. 14(1), 40(2) ICSID Convention). When reading these provisions together, it means that the opinion of experts must be capable of being translated into reasons to be provided by the Tribunal. Such reasons cannot be based, for instance, on mathematical formulae not accompanied by explanations serving as evidence or reasons of law on which an award can be based. The Tribunal cannot reach conclusions based on simple excel-sheets not accompanied by explanations and incapable of being operated on an interactive mode. This is all the more difficult when the response of the experts is limited to stating that the reports have been prepared following a party's instruction. The Tribunal has on several occasions made the Parties aware of such deficiencies.

271. The burden of proof is based on two components. One is to determine the party required to submit to the Tribunal evidence relevant for the resolution of the dispute. The other is to identify the party bearing the burden of losing on a submission when the requested evidence has not been brought before this Tribunal. In many cases, but not in all cases, both components identify one and the same party.

[83] Testimony, 20 July 2009, para. 1.

[84] TR-E, 2017 March Hearing, Day 11, p. 3085:21-3086:2.

[85] Third Supplemental Testimony, 15 August 2014, para. 2.

272. The party making an allegation or an assertion is also the party who should supply the evidence in support of such a submission. It is in most cases also the party who suffers if its submission is not retained by the Tribunal because the required evidence was not presented. As a general matter, it is clear that the Claimants bear the burden of proof in relation to the fact and the amount of loss and damages.

273. In the exercise of the discretion granted to it in relation to issues of evidence, the Tribunal requires that the existence of such losses and damages be proven with certainty, together with the associated costs for production. However, a less stringent approach applies when it comes to determine the precise scope and exact quantification of damages, including the estimation of production and costs. In this respect, the Tribunal must take account of the inherent difficulties to prove precise amounts of oil provided through the process of extraction, upgrading and delivery for sale, and to identify all and every single item of costs associated with such process. When the occurrence of certain facts is demonstrated with certainty, their quantification may be assessed when the Tribunal has received information sufficient to show their reliability with reasonable certainty. Some discretion and approximation must be exercised to render possible such assessment of quantified data. When it comes to the valuation of future profits and costs, the Tribunal will focus on the existence of a stream of occurrences demonstrating that such future events will become actual facts with sufficient certainty, and will not award compensation for inherently speculative claims and costs or any other element affecting cash flow.

274. The Tribunal's record contains an unusually high number of situations where one or the other party was not able or claimed not to be in a position to get access to and to supply to the Tribunal information relevant to the resolution of the dispute. The Claimants argued that since they left the Projects they were faced with considerable difficulties in getting access to facts related to the on-going operation of oil production and its costs. The Respondent, on the other hand, did not provide information from individuals that have had, for a number of years in the past and will have in the near future, responsibilities in the conduct of the Projects. No witness with actual knowledge from the sites was called. The Tribunal also noted the absence of any witness representing foreign companies operating in the Orinoco Belt, and in particular from Chevron, a company closely associated with the oil production on site. These difficulties materialize in the present case in particular in relation to the actual operating mode of the Projects and the costs implied since June 2007 and for the rest of the Projects' lifetime.

275. In a number of occurrences, the Tribunal will have to simply dismiss allegations that are not supported by sufficient evidence. In other cases, the Tribunal may have to proceed with its own estimates, *e.g.* when future oil prices or costs of wells or turnarounds must be assessed. In certain instances, the inability of a party to provide sufficient evidence may have the effect of shifting the burden of proof, in full or in part, to the other party. This may happen when fairness and good faith require that a party not being able to provide full evidence of an assertion it makes should not stand

alone when it can demonstrate that the opposing party has access to or control over the missing evidence. Although the Claimants are correct in stating that they are no longer in an operational position since the expropriation, they retain nevertheless valuable information relating to the Projects as they were in 2007 and they have full professional skill to evaluate the on-going production process and the main categories of costs including their prices today.

276. The Respondent has on many occasions produced piles of invoices in exclusively electronic form without providing either any explanation nor any guidance on how to understand hundreds or thousands of documents not identified by consecutive numbering or dates, mostly not referring to the underlying contracts, and in general not completed by indicating whether the amount invoiced has effectively been paid. The Tribunal's role is not to search for evidence the Respondent or its witness or experts undertook without any effort to assist in being comprehensive. In such cases, more supportive demonstration must be required, like explanations about work to be done on particular items of equipment. Particular attention must be given to the risk of overlapping claims or payments, like associated costs claimed in addition to turnaround costs when it appears that what was "associated" was in fact included in the turnaround's budget. The Respondent sometimes took the position to offer only minimal information, while more evidence would manifestly have been available; such approach must in the end be detrimental to this Party. For example, the Tribunal also learned with some surprise that the Respondent thought appropriate to include in its Submission on Estimated Costs filed with the Tribunal on 2 June 2017 costs projected in an amount of US$ 512,913,000 for a turnaround to take place the preceding year 2016[86] that in fact has never been executed that year and that was still uncertain to be executed in September 2017[87]. Under such circumstances, the need for carefully proceeding in assessing data is particularly high.

277. When preferring an *ex post* approach to valuation based on actual figures over an *ex ante* valuation using figures, in full or in part, that have proven to be incorrect during the Projects' on-going operation, the Tribunal does not mean that *ex ante* information available at the time of expropriation or before is entirely irrelevant. It appears indeed on certain occasions that actual information on a particular item is neither available nor reliable. The Petrozuata and Hamaca Projects have been operated differently since 2009, with different outcomes in respect of quality and quantity of production and causing costs not always comparable to those incurred or projected when ConocoPhillips was still an acting partner. Under such circumstances, an assessment of evidence based on Projects as they would have been conducted had the expropriation not occurred, may prove difficult, hypothetical or simply impossible. When weighing the evidence, the Tribunal may in some cases share the view that assumptions made by the Projects' partners before the

[86] Page 42. Similarly, the Respondent's Experts Brailovsky/Flores, in their Consolidated Expert Report on Valuation dated 17 November 2016 (paras. 329, 335, 337), presented estimated costs for an "assumed turnaround in 2016" of US$ 456.5 million, when they must have known that such turnaround did not take place in 2016.

[87] TR-E, 2017 September Hearing, Day 17, p. 4868:10-4869:2 (Preziosi). It was explained that the information was indeed provided in mid-2017 but based on projections dating back in 2015 (*idem*, p. 4870:8-4872:19).

expropriation were reasonable to such an extent that they can still be used as a reference and as reliable evidence. Such an approach is particularly necessary when the evidence pre-dating the taking in June 2007 was based on common grounds, prepared through the cooperation between all partners and agreed upon by all those attending board meetings, which means in most cases unanimously, except where otherwise stated.

VI. Production

A. Preliminary Observations

278. The investment at the core of this dispute has been made in three parts, named the Petrozuata, the Hamaca, and the Corocoro Projects. The factual, economic and legal background is different for each of these Projects, while their common feature is that they were all hit by Venezuela's attempt to have them migrated into mixed companies (*empresas mixtas*), followed after the default of such process by the expropriation enforced on 26 June 2007[88]. The Tribunal does not need to repeat the basic features of these Projects, which have been presented in their key-elements in the 2013 Decision. The legal basis for the remedy available to the Claimants has been determined and explained above. The Tribunal turns now to the quantification of damages.

279. The Parties strongly disagree on the elements pertinent to the damage calculation. They follow in their presentations a common line of consecutive items to be retained as the key inputs of such calculation. These inputs will also provide guidance for this Award. They are as follows: production, oil prices, costs, taxes, discount rate, interest or update factor. The Parties refer to "DCF Methodology". They accept that this methodology uses the same input categories, and that its specificity relates to the discount rate.

280. The stream of production can be divided in oil extraction, treatment and upgrading. It is then followed by delivery and sale. The Corocoro Project is different from the two others because of its smaller size, the different quality of the oil and the fact that no upgrading is undertaken. This explains why the process of production of the Petrozuata and the Hamaca Projects is more complex and involves a greater number of issues and technical occurrences to be addressed. Each Project must be examined and evaluated by its own characteristics. The analysis is therefore divided in the three main sections of production (upstream, upgrading, downstream), addressing firstly the Petrozuata and Hamaca Projects and secondly the Corocoro Project.

281. There is common ground that the Petrozuata Project was designed to extract approximately 120,000 barrels per day (BPD) of extra-heavy crude oil (EHCO) and to upgrade it into 104,000

---

[88] Decree No. 5.200 dated 26 February 2007 (C-5, R-40); Law on the Effects of the Process of Migration into Mixed Companies of the Association Agreements of the Orinoco Oil Belt, dated 11 September 2007 (C-35).

BPD of synthetic crude (Syncrude or CCO). This syncrude was then sold to ConocoPhillips under an Off-Take Agreement for further refining at its Lake Charles refinery.

282. The Petrozuata Association Agreement was first concluded on 10 November 1995 (C-21, p. 277/pdf) between Maraven S.A., a PDVSA affiliate, and Conoco Orinoco, Inc. (which later had its interests transferred to ConocoPhillips Petrozuata B.V. – CPZ), and later amended on 18 June 1997 (C-21, p. 347/pdf). It provided for the establishment of a joint venture company, Petrozuata C.A., which would, by a majority of 50.1%, be owned by the Conoco affiliate. When the Petrozuata upgrader entered into service in April 2001, and the first syncrude sales were made on 12 April, the 35-year term of the Agreement was triggered, which would extend until 11 April 2036.

283. The Hamaca Project was designed to produce and upgrade 190,000 BPD of extra-heavy crude oil, and to sell the resulting 180,000 BPD of syncrude and other By-products to international markets.

284. The Hamaca Association Agreement was signed on 9 July 1997 (C-22, R-26) by Corpoguanipa S.A. (on behalf of Corpoven, a subsidiary of PDVSA), ARCO and Texaco affiliates, and Phillips Petroleum Company Venezuela Limited (which later had its ownership transferred to ConocoPhillips Hamaca B.V. – CPH). It provided for the Project to be structured as an unincorporated joint venture; the Phillips Company owned 40% of the Hamaca Project[89], while the subsidiaries of PDVSA and Chevron each owned a 30% interest. The exploitation of the field would extend until 8 July 2037.

285. The Corocoro Project operated on the basis of an amended Development Plan of 2005 (C-181) that projected production of 30,000 BPD of light and medium crude oil in the offshore New Areas in the Gulf of Paria beginning in the summer of 2007, with production rising close to 70,000 BPD when the Central Production Facility came online at a projected date in late 2008.

286. The Corocoro Association Agreement was concluded on 10 July 1996 providing a 39-year term and for Conoco Venezuela B.V. to be the operator (C-23, R-29). Conoco Venezuela B.V. (which later had its ownership interest transferred to ConocoPhillips Gulf of Paria B.V. – CGP) held 32.2075% in the Project, alongside with CVP, a PDVSA subsidiary (35%), Eni (25.8%) and two smaller investors, OPIC and Ineparia (7%).

287. A number of issues are of a general nature and suited to be examined independently from specifics of a particular Project (B). They will be addressed first, in respect of Petrozuata and Hamaca, before the focus will turn to each of these Projects separately (C and D), followed by an

[89] The initial participation of 20% was raised to 40% by means of Amendment No. 2 to the Hamaca Association Agreement, dated 28 June 1999 (C-22, p. 818/pdf).

examination of the operation of the upgraders (E) and a conclusion (F). As mentioned, Corocoro deserves a special section (G). A final point relates to By-products (H).

B. The Main Features of Production of Petrozuata and Hamaca

288. One of the main areas of dispute is the assessment of the production profiles to be retained for the post-expropriation period, both between July 2007 and end 2016, and from early 2017 until the end of the lifetime of each of the Projects (Petrozuata and Hamaca). The experts on each side presented analysis based on very different assumptions. Different operating objectives are a matter of debate, together with the migration companies' skill for running efficiently the sites and the business as a whole. When lower production volumes are discussed, the issue then coming up as a reflex relates to the quantities of oil remaining available in the future (the Reserves), either until the end of the Projects' operation or until the time of complete exhaustion of the fields.

1. The Claimants' Position

289. The Claimants explain that their valuation experts, Dr. Abdala and Prof. Spiller, have relied on the oil production profiles endorsed by all of the Project participants, including PDVSA, immediately prior to the expropriation. They reflect what the disputing parties both agreed upon what was likely to be achieved. That is particularly appropriate where, as here, the pre-expropriation profiles are confirmed by highly persuasive evidence – the Projects' Reserves figures. Those figures are a uniquely reliable measure of an oil field's value, because they reflect the best current knowledge about the geological and economic properties of a reservoir.

290. Venezuela offers in respect of the Petrozuata and Hamaca Projects only the made-for-arbitration assertions of its fact witness, Mr. Figuera, and the models of its technical expert, Mr. Patiño. Venezuela's quantum experts in turn rely on their reports for the production profiles they plug into their damages calculation. Venezuela's made-for-arbitration production profiles must be rejected.

291. First, the diminished production estimates put forward by Venezuela are contradicted by the most powerful evidence: the Proved Reserves figures. Such Reserves are, by definition, the volumes of oil that are nearly certain to be recovered under existing economic and operating conditions. Venezuela puts forward an extraordinary contradiction: according to its published Proved Reserves figures, the fields are now capable of producing much more oil than at the time of the taking, while according to the profiles presented in this arbitration, the Projects are capable of producing less and less. This makes no sense.

292. Second, to the extent that extra-heavy crude oil (EHCO) production at the Projects has actually declined since the expropriation, then the only explanation would be PDVSA's poor post-expropriation management of the Projects.

293. Third, Venezuela's production forecasts are unreliable. For the period from 2009 to the end of the Projects terms, Venezuela relies not on actual EHCO production data, but on theoretical models for Petrozuata and Hamaca created by Mr. Patiño. For the historical period (January 2009-December 2015), Mr. Patiño excludes tens of millions of barrels of EHCO that according to PDVSA's own documents were in fact produced during that period. Mr. Patiño's forecasts of future production rest on inadequate methodology, as the Claimants' expert, Dr. Strickland, has explained.

a. The oil production profiles

294. The damages awarded in this case must restore the Claimants to the position that they would have enjoyed in the but-for world, in which the expropriation did not occur. Consistent with this principle, the Claimants' experts have relied on conservative oil production profiles contained in each Project's pre-expropriation business planning documents. These profiles reflect the Project participants' shared expectations about the level of oil production that would be achieved in the future. International tribunals have routinely relied upon such forecasts.

295. The experts follow the approach described above, adopting forecasts as follows: (a) for Petrozuata, the remaining EHCO recovery between June 2007 and 2036 is 913.5 million barrels; (b) for Hamaca, the remaining EHCO recovery between June 2007 and 2037 is 1.894 billion barrels.

b. The expected oil production based on the Reserves figures

296. The Claimants submit that Reserves figures are uniformly used to quantify the volumes of oil that are expected to be recovered from specific oil reservoirs. Under the SEC regulations, Reserves are divided in three categories: Proved (1P), Proved plus Probable (2P), and Proved plus Probable plus Possible (3P). Proved Reserves (1P) represent the most cautious "low estimate scenario" for actual production from a given field. 2P Reserves represent the "best estimate scenario", while 3P Reserves represent the "high estimate scenario" (CL-343). International tribunals rely upon Reserves figures. The Organization of the Petroleum Exporting Countries (OPEC), Venezuela and PDVSA likewise use functionally identical definitions.

297. In the present case, Venezuela's own Proved Reserves figures put to rest any doubt that the Claimants' oil production profiles were, and remain, achievable. Those figures – which have been increasing since the expropriation – confirm to a "reasonable certainty" that there is more than enough recoverable EHCO, to an extent exceeding the pre-expropriation forecasts used by the Claimants. The Ministry of Energy and Oil reported Proved Reserves at Petrozuata to be 2.4 billion barrels of EHCO in 2006 (C-404). Its most recent published figure, in 2010, is 3.9 billion barrels

(C-623). Nothing has been published since then. In 2006, the figure for Hamaca was 3.6 billion (C-404), and for 2015 4.6 billion (CLEX-090).

298. The Respondent argues that these figures are not comparable to the oil production profiles in this arbitration. First, Venezuela argues that the Ministry's Proved Reserves are calculated for the life of the fields, rather than for the contractual terms of specific projects. However, the argument fails by the definition of Proved Reserves, also agreed to by Venezuela. Such Reserves refer to EHCO volumes that are virtually certain to be recovered under "prevailing conditions", which means that they are actually recoverable and certainly before the end of the Projects. Second, Venezuela argues that the Reserves figures published by the Ministry include additional volumes of oil recoverable when using enhanced oil recovery (EOR) techniques, such as steam injections. If such volumes of recoverable oil reserves have been included in the Ministry's counting, then the same techniques had been available to the Claimants in the but-for scenario as well. Third, Venezuela appears to suggest that Proved Reserves figures may be higher for the owner of the natural resource (the State), on the ground that it is not concerned with the payment of taxes and royalties. Venezuela had offered no evidence in this respect. In any event, PDVSA pays the same royalties and taxes as private oil companies in Venezuela.

299. Venezuela's post-expropriation Proved Reserves figures show that the Petrozuata and Hamaca fields remain more than capable of producing the volumes of EHCO used in Claimants' damages model. Furthermore, the Proved Reserves figures have been increasing since the expropriation, which contradicts Venezuela's position that the production volumes have decreased as time has passed by.

c. Venezuela's made-for-arbitration production forecasts

300. The Claimants note that the Respondent bases its case on production profiles prepared for the purposes of this arbitration by its technical expert, Mr. Patiño. They were then plugged into Brailovsky & Flores damages calculation. If applied, they would reduce the value of the Projects by nearly US$ 6.9 billion, compared to the production profiles used by the Claimants' experts.

301. The Respondent employs a two-step approach: (a) with respect to the historical period (2007-2015), Venezuela relies on what it says the "actual" performance has been. This is in two parts: (i) for the period 26 June 2007 through the end of 2008, Venezuela uses the actual volumes of EHCO produced by the Projects, as reported by PDVSA, while (ii) for the period from 1 January 2009 through 31 December 2015, Venezuela relies on Mr. Patiño's calculation of the volumes of EHCO that would have been required to produce the amounts of syncrude that were actually sold by the post-expropriation Projects. (b) With respect to the future period (from 1 January 2016 through the end of the Association Agreements), Venezuela relies upon the theoretical production forecasts created by Mr. Patiño.

302. The Claimants contend that the post-expropriation performance of the Projects, under PDVSA's stewardship, cannot be taken as reflecting the performance that would have been achieved had the expropriation not occurred. The Claimants have no means to test or verify that information. Even if the "actual" results reported by Venezuela would be accurate, they are not reflective of what would have been achieved had the expropriation not occurred. First, the alleged lower production volumes are not consistent with the Ministry's Proved Reserves figures. Those figures reflect the amounts of oil that a competent operator would extract under presently existing conditions, and they considerably exceed the oil volumes used in the Claimants' damages calculations. Second, since the expropriation, all three Projects have been majority-owned and controlled by PDVSA, which has different priorities and capabilities. According to the Claimants, beginning in the early 2000s, PDVSA has been transformed from a commercially-oriented company into an arm of the Venezuelan State. Its priorities have been shifted and its performance has suffered. The government has, for example, increasingly used PDVSA as a "cash cow" to fund its social programs. All Projects suffered from an exodus of experienced employees caused by the expropriation of the Orinoco Belt and New Areas Projects.

303. While the post-expropriation oil production alleged by the Respondent cannot be verified, the profiles for the remainder of the historical period – from 2009 to 2015 – are more egregious still. For this period, Venezuela does not refer to actual volumes of EHCO, but on hypothetical volumes of EHCO that would have been required to produce the volumes of syncrude that Venezuela says were sold by the Projects during that period. In fact, actual EHCO production has far outstripped the EHCO volumes retained for the Respondent's damages calculation. Venezuela thus ignores its own data, showing approximately 97 million barrels of "lost oil", worth approximately US$ 7.5 billion.

304. Venezuela attempts to justify its disregard of these lost oil volumes by claiming that as from 2009, PetroAnzoátegui and PetroPiar produced large amounts of EHCO that were not upgraded to syncrude, but rather sold in blended (not-upgraded) form (DCO and blended crude). Venezuela argues that the pre-expropriation Projects were not allowed to sell those products, and that therefore the Claimants can get no credit for those blended EHCO volumes in this arbitration. Even if this would be correct, Venezuela's assertion shows, firstly, that PDVSA's post-expropriation strategies and priorities differ from those agreed by all the Project participants prior to the expropriation. Indeed, in such a post-expropriation scenario, the incentive to maintain upgrader performance would have been reduced, because it was still possible to sell non-upgraded products. Secondly, the but-for scenario must be modeled on the basis of the pre-expropriation plans, as they had been endorsed by PDVSA.

305. In any event, Venezuela's claim that the pre-expropriation Projects were prohibited from selling non-upgraded products is false. Venezuela relies on a June 2005 letter from the Ministry

(Appendix 1 to Dr. Mommer's Testimony). On a closer look, the letter was in fact a demand that the Projects pay higher royalties on non-upgraded volumes of EHCO. The Projects were never prevented from producing blended crude: (a) both Projects produced and sold blended crude oil before the June 2005 letter; (b) the Ministry was fully aware of this; (c) both Projects continued to produce and sell blended products after June 2005; and (d) there were no occasions in the pre-expropriation period when either Project was prohibited or prevented from producing and selling blended crude. It cannot be suggested that the Projects would have been prevented from producing and selling blended crude oil in the but-for scenario. However, they would not have made such a choice: they would have upgraded those additional crude oil volumes, thereby maximizing the value obtained from them.

306. With respect to the future period, *i.e.* from 1 January 2016 onward, Venezuela relies on the production forecasts created by Mr. Patiño. He determined for each Project an annual decline rate, at which the wells in each field will produce less oil over time. The Claimants note in this regard that where the pre-expropriation Projects used more advanced tools, Mr. Patiño's decline curve methodology is inappropriate and ultimately irrelevant. It is also clear that Mr. Patiño's simple decline rate methodology could only be used to evaluate a small minority of the wells at both fields. Mr. Patiño did not undertake the most basic reality check. He did not attempt to (i) reconcile his pessimistic forecasts against the far larger Proved Reserves figures published by the Ministry and PDVSA; (ii) compare his model's results to the long-term production forecasts prepared by the Projects since the expropriation; or (iii) test his forecasts against the actual EHCO production from the fields for past periods covered by those forecasts. The reports of the Claimants' expert, Dr. Strickland, reveal these and other fundamental flaws in Mr. Patiño's analysis, including the erroneous conflation of different types of wells.

d. PDVSA's poor management

307. The Claimants observe that PDVSA's practices and competencies became substantially different from those of the Projects' prior management, before the takings. In 2003 already, the government fired thousands of PDVSA's most experienced engineers and managers, and replaced them with political loyalists. Another wave of losses of experienced senior employees occurred in 2007. PDVSA offered substantially lower salaries to the Venezuelan personnel. Mismanagement and corruption have been documented in Venezuela and the United States.

308. In support of PDVSA's post-expropriation performance at the Projects, the Respondent argues that Chevron remained a shareholder and is a competent commercial organization. Yet the suggestion ignores that since the takings, PDVSA owns the entirety of what was the Petrozuata Project, and 70% of what was Hamaca. The governance structure of the companies has changed. While the Respondent further argues that Chevron retains a significant role on maintenance

activities at Hamaca, it has produced no evidence to that effect, beyond Mr. Figuera's unsubstantiated assertions.

2. The Respondent's Position

309. The Respondent notes that the Claimants' starting points for the extra-heavy crude oil upgrading Projects are (i) for Petrozuata, the October 2006 ConocoPhillips (COP) Composite Economic Model (CEM, LECG-085, BF-412), and (ii) for Hamaca, the October 2006 Petrolera Ameriven Hamaca Economic Model (AEM or PAM, LECG-129, BF-411). Both Projects have produced less oil than Claimants have projected. The Petrozuata Project suffers due to a high decline rate, the lack of good well targets and the low initial production of the wells. The Hamaca Project has suffered due to enormous problems at the upgrader, resulting in an average OSF of only 71.37%. These issues are detailed in the Third Supplemental Direct Testimony of Rubén Figuera and the Expert Report of Jesus Patiño, which form the basis for the valuation carried out by Mr. Vladimir Brailovsky and Dr. Daniel Flores.

310. The Claimants use virtually the same production and costs in their *ex post* valuations as they do in their *ex ante* valuations. The only difference is the inflation index; the underlying costs are exactly the same. However, those *ex ante* data bear no relationship to what actually happened in the Projects after the nationalization. While such data may have been appropriate to account for information that a reasonably informed buyer would have known as of the date of the nationalization, in an *ex post* valuation as of 31 December 2016, what actually transpired in the historical period must be taken into account.

311. The Respondent also reacts to the Claimants when they argue that they do not have to take into account the performance of the Projects under the operatorship of companies in which they are not participants. They contend that post-expropriation is essentially irrelevant to the "but-for" analysis, because they were entitled to compensation based on the manner in which the fields would have been operated had the Claimants not been dispossessed.

312. The Respondent further highlights the confusion entertained by the Claimants when referring to the Ministry reserves in this context. EHCO production volumes for the term of a project with a finite life using cold production techniques are not comparable to the volumes that Venezuela expects to be achieved over the entirety of the life of the field, both under cold production and using EOR techniques.

a. The oil production profiles

313. The Respondent has demonstrated precisely what the production and sales of CCO achieved by the upgrading Projects Petrozuata (now PetroAnzoátegui) and Hamaca (now

PetroPiar) have been during the historical period[90]. What the Respondent did was to properly assess the performance those Projects would likely have achieved in the historical period had the associations remained in place. Thus, the Respondent started with the actual CCO sales as the basis for the calculations, since the oil product the Petrozuata and Hamaca associations were permitted to sell was upgraded crude oil. The Respondent has estimated (not "projected") the volumes of EHCO that would have been required to achieve the actual CCO sales volumes realized in the historical period. In short, the Respondent started with the relevant actual performance data, namely CCO sales, and estimated from there EHCO production volumes and related costs that would have been incurred in a world in which the associations had persisted. The only "projecting" that the Respondent did was in connection with the future EHCO and CCO production, where projections are required, since the actual facts are not known.

314. The Respondent has established what the actual sales of CCO at PetroAnzoátegui and PetroPiar have been during the historical period and that those are the results that would in all likelihood have prevailed in a world in which ConocoPhillips participated in the Projects. It is the Claimants' burden to establish that the Projects would have achieved better results than those obtained by the post-nationalization companies if the associations had remained in place. But the Claimants' *ex post* valuations, which are premised on long outdated models that were prepared in 2006, ignore the real world and the historical realities of the Projects.

315. The Respondent's presentation of the potential EHCO production from the fields is based on Mr. Patiño's expert study. He had proceeded with a detailed examination of a selection of representative wells with the aim of determining the overall production capabilities of the fields. Based on this analysis he determined an overall decline rate of the wells between 20 and 22%. He concluded that the fields would run out of targets for new drills much sooner than this was projected, and that therefore the total production of EHCO would be significantly lower than the volumes the Claimants contend to extract from the grounds. This will be demonstrated in respect of each Project separately.

b. The expected oil production based on the Reserves figures

316. The production profiles used by the parties necessarily assume production only for the terms of the Projects. Neither party has assumed that EOR techniques, with the associated costs, would be employed at either Petrozuata or Hamaca. The Ministry Reserves assume production over the entire life of the fields and the implementation of EOR techniques that would increase the recovery factor to an assumed 20% rate against the original oil in place (OOIP) calculated at the outset of the Projects.

[90] Cf. Invoices in Figuera Appendices 42, 81, 104, 105; Reports in Figuera Appendices 106, 107, 108, 109, Patiño Appendix 46.

317. The Claimants argue that both categories of Reserves are defined to mean volumes that are commercially recoverable under existing economic and operational conditions. They ignore the distinction between production volumes that can be expected over the course of a period of approximately 30 years using primary production methods alone and the production that can be expected over the life of the oil fields using all known methods that would available for Venezuela (as opposed to a Project company). Mr. Figuera explained that the Ministry-approved Reserves assume that the wells will continue to produce oil, even at a lower and lower rate. They also assume that additional wells that are economically attractive to the country will be drilled in due time, and that EOR techniques ultimately will be employed over the life of the field. Mr. Figuera's basic point is that reserves for a country, as the owner of the resources, will invariably be higher than the reserves for a particular project of a finite term. This is so, not only because the country can use recovery methods that may not be attractive to a project participant, but also because the resource owner, producing through its national oil company, benefits from the entirety of the revenues realized on the production.

318. The Respondent refers to a presentation from Petrolera Ameriven to CVP from November 2006 distinguishing between a recovery factor of 5.4% of the OOIP for the 35-year life of the Hamaca Project, while the same factor applied to the life of the Huyapari field through 2150 was estimated at 11.7%[91]. This means that this field would produce more than twice as much EHCO as was estimated for the life of the Hamaca Project using cold production techniques alone. The Respondent also recalls that each of PDVSA's yearly management reports stated that the Reserves set forth therein are for the life of the field and are based on ultimate production using EOR techniques, as for instance in the 2008 Report (CLEX 39).

319. The Respondent also notes that the Claimants would never have implemented EOR at the Projects had they remained participants. Even if certain areas of both of the Projects' fields could potentially be exploited using EOR techniques, such hypothesis is irrelevant, since such techniques were never seriously considered and, in any event, neither Party is assuming the implementation of such techniques in this arbitral proceeding. Witness Brown explained that ConocoPhillips had suggested the use of steam assisted gravity drainage (SAGD) when Petrozuata was designing its first EOR pilot study in 2005. Neither he nor the Claimants mention that the SAGD project under consideration at Petrozuata was to be implemented only in a particular portion of the Petrozuata field's reserve area with sands having a then-estimated thickness of at least 40 feet, and that it was to use only single-lateral wells. They do not address either Mt. Lyons' statement at the 2010 hearing that there was not a high degree of confidence that such a project would work at Petrozuata. Even if the SAGD project had been implemented, it would only have been expected to contribute 20,000

[91] Figuera Appendix 75.

BPD of EHCO starting in 2015, at the earliest, at a cost of more than US$ 1 billion[92]. EOR was rejected by ConocoPhillips as uneconomic (C-333). The Claimants have never addressed the costs associated with EOR Projects, which involve massive up-front capital expenditures.

320. In sum, the Respondent concludes that there is no connection between the Ministry Reserves and the production volumes that can be achieved under cold production during the terms of the Petrozuata and Hamaca Projects. The Claimants' reliance on Ministry Reserves is nothing more than a smokescreen. What is impossible to understand is that if there is more than enough oil for the Projects to produce, why does the Claimants' own production profile for Petrozuata drop off the cliff in 2023, and why does the Claimants' own production profile for Hamaca fall off starting in 2031. The Claimants obviously cut their own production profiles because the fields simply cannot produce more, and, in fact, will produce less under cold production.

c. The control over the Projects

321. The Respondent objects to the Claimants' assertion that their continuing involvement on the sites would have contributed to raise production and improve performance of the Projects. In the post-nationalization period, as before, the PDVSA subsidiary would have held the position of control. Article 5 of the 1975 Nationalization Law provided for the control through the State company and this was retained in both the Congressional Authorizations for Petrozuata and Hamaca. Thus, nothing of significance at either of the Projects could be accomplished unless and until the PDVSA subsidiary gave its approval, and this would have been true for the associations post-nationalization as before. Witness Lyons acknowledged the control held by the PDVSA subsidiaries in the Projects.

322. The Claimants have never been able to explain why it should be assumed that at a project like Hamaca, the presence of a handful of ConocoPhillips secondees would have dramatically changed the results achieved in the post-nationalization period. At PetroPiar, Chevron personnel have, since the nationalization, held key positions in upgrader projects and technical management, maintenance, engineering and construction and drilling; they have been responsible for all of the major maintenance activities, including the 2009 turnaround, the combined turnaround/PRAC (Restoration Plan for Critical Assets) in 2012, and the series of PREMs (Restoration Plans for Major Equipment) starting in 2012.

[92] Figuera Appendix 80.

3. *The Tribunal's Findings*

a. The relevance of actual production figures

323. The Tribunal will analyze the production for each Project separately. As this has been explained above, it will rely on actual figures as much as they are available and based on reliable evidence. However, such approach is possible to the extent only that the Project's operation since the expropriation remains close to the characteristics that would have been prevailing had the Association Agreements not been extinguished. The main concern in this respect relates to the actual figures and forecasts presented by the Respondent since the year 2009.

b. The production forecasts as from 2009

324. The Respondent submits that the Projects' production of oil was much lower than what had been projected. In support of its submission, the Respondent used actual performance data, namely CCO sales, and estimated EHCO production volumes and related costs that would have been incurred in a world in which the associations had persisted[93].

325. However, this presentation, further explained above, is not correct. Mr. Patiño's available EHCO production was based on a retro-calculation from what he understood as the maximum quantities of oil capable of being extracted by the wells actually in place and later to be drilled. The EHCO quantities he retained for this purpose were admittedly lower than what he considered as the quantities of EHCO that were accessible on the fields and capable of being extracted if the required wells would have been available, which, in his opinion, was not the case.

326. The Respondent provided little explanation about the split operated as from 2009 between the production of syncrude or CCO, and the selling of blended oil. Albeit not supported by comments and focused evidence, the Respondent's statement is clear:

> Mr. Patiño's production capacity programs at both Petrozuata and Hamaca begin on January 1, 2009 because in 2009, the post-nationalization companies began to operate in a manner that was inconsistent with the pre-nationalization association model in that they produced and sold (or exchanged with other mixed companies) blended products, activities in which the associations were not authorized to engage. In the post-nationalization period pre-dating January 1, 2009, the mixed companies produced and sold only CCO and,

[93] The contracts on migration provided that the upgrading of extra-heavy oil was not the exclusive production, the mixed company further selling other hydrocarbons (cf. Article 3 of the contract for Hamaca dated 5 December 2007, R-45, and the draft of 17 January 2007, C-31, respectively for Petrozuata dated 22 January 2007, C-32).

> accordingly, the actual performance in that period represents what the performance would most likely have been had the associations remained in place[94].

Mr. Patiño made a similar statement:

> My production capacity programs were based exclusively on EHCO volumes required to achieve actual CCO production and sales in the historical period (and, therefore, excluded EHCO volumes used to produce blended products that the Projects under the association model were not authorized to sell). Since those volumes are less than actual EHCO production volumes achieved in the historical period, I also adjusted the well-drilling programs at the Projects to match those reduced volumes of EHCO, thereby eliminating costs in the historical period that the associations would have been able to avoid by deferring EHCO production capacity from which they could not have benefitted. The EHCO that was produced in the historical period but which would have been of no use to the associations was therefore excluded from the historical period and, instead, moved to the future (projection) period, along with corresponding costs, when the EHCO could be used by the associations had they remained in place[95].

327. Mr. Patiño as an expert could not provide witness testimony in this respect. He has not been contradicted by the Respondent. Mr. Patiño's expertise was based on quantities of EHCO supplied to the upgraders substantially lower than what has been provided before 2009. He thus incorporated in his examination the decrease in EHCO available for the production of upgraded syncrude. In so proceeding, he did not rely on the quantities of EHCO that have been extracted and shifted to the upgraders before 2009 when the Projects were operated as designed by the participants acting under the Association Agreements. He further told the Tribunal that his study and his instructions were different from the methodology currently existing at the Projects[96].

328. The same reduced figures then served Mr. Figuera's presentation that he brought before this Tribunal for the first time with his Third Supplementary Testimony. However, his testimony is not based on personal knowledge, as he had left the Projects long before 2009. He further demonstrated that his information was provided to him from external sources (basically Mr. Patiño), because it was completely absent from the statements he had submitted to the Tribunal before. Furthermore, his new figures are inconsistent with those contained in his prior witness statements.

[94] Respondent's Final Brief on Quantum, para. 317.

[95] Mr. Patiño's Consolidated Report (footnote 31). When referring to this note, the Respondent understood that the EHCO produced and used in the period starting on 1 January 2009 for production of blended products "is assumed to remain in the ground until needed for CCO production" (Respondent's Final Brief on Quantum, para. 317 *in fine*). Such assumption is purely theoretical and has nothing to do with the actual life of the fields.

[96] Cf. TR-E, 2017 February Hearing, Day 9, p. 2575:1-2577:12.

329. Mr. Figuera's interpretation of the shift that occurred as from 2009 in the production volumes provided to the upgraders is different from Mr. Patiño's and the Respondent's statement. Indeed, for Mr. Figuera, when the Projects began using excess EHCO for the sale of DCO or other blended products, "this was due to the chronically low OSF at the Hamaca upgrader and to certain events at Petrozuata that also reduced upgrader throughput"[97]. Thus, Mr. Figuera reversed the chain of causality: reduction in EHCO quantities provided to the upgrader was not the consequence of the choice to sell blended oil, but the effect of access restrictions to the upgrader expressed by its low OSF. However, Mr. Figuera does not provide any element of information on actual facts in support of his assertion. The sudden shift he observed starting in 2009 has no explanation based on the timeline of events: in the second half of 2007 and the year 2008, the upgraders were operating correctly and complying with the parameters for EHCO to CCO throughputs as before. Witness Figuera testified that in the second half of 2007 and in 2008 no blended oil (DCO or Merey 16) was produced at Hamaca or Petrozuata[98]. The shift to sell blended oil occurred in 2009. An upgrader's quality assessment cannot show a sudden "jump" from 79% to 60% OSF from 2008 to 2009, without any operational explication other than the volume of EHCO provided to the upgrader. No change has been reported in relation to the performance of the upgrader. There is no evidence before the Tribunal that the volumes of incoming EHCO and outgoing CCO were reduced because of a limited availability of the upgraders that would have had equally materialized under the operation based on the Association Agreements[99]. Mr. Figuera adopted Mr. Patiño's figures and his approach based on decline rates. Mr. Patiño's conclusion in respect of the limited output of the upgraders was based on his understanding of the EHCO production from the fields and not on the examination of the upgraders' performance that he had not done. It is instructive to observe the figures he lists as conclusion of his analysis of the upgraders' performance[100]: First, the expert identifies the possible EHCO production to the upgrader as the result of his analysis of the available EHCO in the fields; and then, second, he calculates the out coming CCO by using the yield factor exclusively, as if the upgrader would operate at a 100% OSF[101]. The Respondent[102] and its valuation experts[103] have reproduced the same numbers.

---

[97] Fourth Supplemental Testimony, 7 January 2015, para. 21.

[98] Fourth Supplemental Testimony, 7 January 2015, para. 21, footnote 46.

[99] Witness Sheets explained that it is more expensive to refine heavy crude than light sweet crude. "For this reason, if the differential between heavy and light crude drops sufficiently, at some point it becomes economically justified for refiners to convert heavy oil refining capacity back to regular light oil refining capacity (termed "loafing" the coking facility). This point may be reached when the differential falls to just a few dollars." (Witness Statement, 30 October 2009, para. 22).

[100] Consolidated Expert Report, 17 October 2016, paras. 116, 193.

[101] For instance, for Petrozuata and for 2017, an EHCO production to the upgrader is determined at 86,829 BPD, yielding 74,855 CCO, which is the result of the yield factor of 0.8621. For the same year, at Hamaca, 143,432 BPD of EHCO produce 135,256 CCO, a result obtained through the yield factor of 0.947. No impact of a reduced OSF has been measured in these calculations.

[102] Respondent's Final Brief on Quantum, paras. 325, 363.

[103] Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, paras. 246-249, 259.

330. These basic elements of the Respondent's production figures will be analyzed in more detail below.

331. The Respondent has not submitted testimony on this matter before this Tribunal. The Tribunal assumes that this could have been done easily by calling personnel responsible for the operation of the sites conducted by PDVSA and thus under the State's control. The evidence before the Tribunal is therefore based in significant parts on documents relating to sales of oil. These sales are in two parts. The greater part relates to invoices and sales of CCO. The smaller part is about the sale of blended oil, which means oil not upgraded and sold as quantities of EHCO combined with naphtha (DCO) or with Mesa (resulting in Merey 16), usually in a proportion of 76.67% to 23.33%.

332. The Respondent objected to the use of any figure relating to blended oil, arguing that the Projects were not permitted to deal with such oil, as they were under an obligation to produce syncrude exclusively[104]. The latter observation is correct, subject to an examination of the question whether the Projects were permitted to sell blended oil during turnovers. The main parts of the 23 June 2005 letter of the Ministry of Energy and Mines concerning Hamaca[105] read as follows:

> THIRD: The blending of extra-heavy hydrocarbons is only envisaged in the pre-operating phases, but not in subsequent exploitation phases. The blending of extra-heavy hydrocarbons during the periods which correspond to the plant shut-down is not authorized in the decision of the Congress of the Republic and in the Bicameral Commission's Report.
>
> FOURTH: The activities carried out or the situations created during the exploitation of extra-heavy crude in the Orinoco Oil Belt that exceed the limit of the decision of the Congress of the Republic, shall be considered outside the framework of that decision. Accordingly, it shall be understood that the aforementioned activities and situations are subject to the provisions of the law in force, especially to those [provisions] of the Decree with Force of Organic Law of Hydrocarbons, dated November 13, 2001.

The fifth paragraph further explains that the volumes of hydrocarbons that exceed the monthly average production of MBD that was approved by the Congress shall be subject to the 30% royalty rate set forth by the aforesaid law, and that this also applied in cases of volumes related to the blending of extra-heavy crudes. It was also stated that the payment of such royalties does not legitimize the excesses identified and does not imply an authorization for such activities.

[104] Cf. Hamaca Congressional Authorization, Tenth Condition (R-93); Hamaca Association Agreement (Sec. 6.2).

[105] Testimony of Dr. Mommer, Appendix 1, including a nearly identical letter send to Petrozuata the same day (also C-217, R-199).

333. The Tribunal understands this last paragraph as being directed essentially to the royalty rate, which shall be the regular rate of 30% in the case of any excess production running over the volume of 197 MBD of extra-heavy crude. Blending of extra-heavy oil was not prohibited during shut-downs, but tolerated. As stated in paragraph 4, such production was outside the activity governed by the Association Agreement. Article 1 of the Hamaca Agreement defines "Commercial Production" as "the upgraded oil produced by the upgrading of Extra-Heavy Oil", whereas Article 1 of the Petrozuata Agreement states that the "Project" relates to the production and upgrading of extra-heavy oil; blended oil is not included in these definitions[106]. Therefore, the quantities of blended oil that ConocoPhillips allegedly had produced and sold and later envisaged to provide in by-passing the upgrader during turnarounds were not covered by the scope of application of the Association Agreements. They were nonetheless part of the "taking", because they represented assets and interests that were included in the scope of the expropriation based on Article 2 of the Law on the Effects of the Process of Migration into Mixed Companies of the Association Agreements of the Orinoco Oil Belt of 11 September 2007 (C-35).

334. The main part of the Respondent's argument in respect of blending, however, is wrong. The Tribunal does not consider relevant the actual or future sales of blended oil. It only notes, and considers this important, that there were substantial quantities of EHCO available to allow selling considerable amounts of barrels of blended oil since 2009. The Respondent noted that at Petrozuata "a significant volume of blended products" was sold[107]. The situation was the same at Hamaca[108]. Had the Association Agreements remained in place, such EHCO would not have been used for the purpose of blending, but it would have been included in the process of upgrading and be added to the quantities of oil sold as CCO.

335. In light of the omission to take account of the EHCO available for blending, the quantities of EHCO referred to by Mr. Patiño and Mr. Figuera are not reliable for the determination of the CCO production as it would have been possible had the Projects remained as they were under the Association Agreements. It would seem that Mr. Patiño was aware of this difference in counting, because he also listed the amounts of EHCO potentially extractable. However, he did not use these figures, and Mr. Figuera and the Respondent and its experts ignored them. They will come back in the Tribunal's analysis below.

[106] For the same reason, the Respondent's experts explained that the Hamaca compensation provision that is based on revenues from commercial production could not apply to an activity such as blending; TR-E, 2017 February Hearing, Day 6, p. 1669:20-1670:8 (Flores).

[107] Respondent's Cost Estimation for Petrozuata, p. 7, 72, 73; TR-E, 2017 March Hearing, Day 14, p. 4269:18-4270:3, 4290:9-13 (Preziosi).

[108] Respondent's Cost Estimation for Hamaca, p. 7, 76, 97.

336. The Tribunal finds, however, that the Claimants' presentation is not accurate either. The quantities of oil that have been reported on the Tables submitted on 20 March 2017 as "blended" are not accounted for in the Claimants' models and documentation as having such characteristic (composed of EHCO and naphtha or another diluent). The Claimants add in a comment to their Tables that the source for such "blended" oil has to be found under "ECHO by-pass"[109]. The Claimants' Replies of 10 July 2017 affirm that the production of blended oil has been reflected in pre-expropriation business plans[110], however without demonstrating convincingly that such production consisted of more than simple EHCO by-passing the upgrader. The models and the Claimants' experts' accounts determine quantities of "EHCO by-pass" during turnaround years. Contrary to the Claimants' assertion, the term "blended oil" is not used in this connection; "EHCO by-pass" is EHCO and not "blended oil". The Composite Economic Model (CEM) of 2006 records, for instance, 2,400,000 million barrels (MMB) as "EHCO By-pass" for each turnaround year at Petrozuata, whereas the line labeled "(Blend (Zuata 9 - Naphtha)" is completely empty[111]. For Hamaca, the main figure is 2,880,000, also under the heading "EHCO By-Pass" (there is no mention of blend)[112]. Consistently, there is, for Petrozuata, no cost item relating to the 23.33% naphtha component of blended oil[113]; for Hamaca, costs for "Naphtha-Make-up" are noted but such expense appears as projection and not relevant for oil sold as EHCO[114]. The Claimants' experts account for EHCO by-pass in turnaround years, combined with prices relating to EHCO sold (neither CCO, nor blended oil). On the other hand, the total volume of 913,5 million barrels claimed as the Claimants' loss for Petrozuata's post-expropriation period includes a volume of 9,044,000 MMB EHCO

---

[109] Cf. Claimants' Tables submitted on 20 March 2017 for Petrozuata and Hamaca.

[110] Question 15, para. 36. However, the Petrozuata 2006 Business Plan simply mentions EHCO by-pass production (slide 2, LECG-082). The Hamaca 2006 Business Plan notes the use of EHCO for "blending and sales" independent of the upgrader during turnarounds (p. 20); it records prices for EHCO blend (p. 17) that are so low (compared to naphtha) that they rather support the assumption of simple EHCO production. When the Claimants quote their experts (*ibidem*, footnote 62), they refer to their reporting on "EHCO" and not "blending" (CLEX-086). Similarly, the Hamaca Board of Directors provided on 18 May 2006 for a 90 MBD by-pass production of EHCO during turnaround (C-344, Figuera Appendix 25, p. 3, 8), and, at its meeting of 12 September 2006, it assumed a production of 80 MBD EHCO during such an occasion (Figuera Appendix 75, p. 2). By-pass production during turnarounds and emergency shutdowns was also recognized at Petrozuata; cf. Financial Statements 2006/5, p. 14, noting that by-pass production consisted of EHCO not processed through the upgrader (LECG-009); and for 2004/3, p. 14/15, adding that by-pass produced oil was blended with Santa Barbara crude (LECG-094). The Respondent's Counsel mentioned an agreement of the Ministry with PDVSA "to provide the Mesa necessary for the blending process" during the 2006 turnaround at Hamaca; TR-E, 2017 September Hearing, Day 16, p. 4568:4-9 (Preziosi).

[111] CEM, p. 53-55/pdf.

[112] CEM, p. 244/245/pdf.

[113] CEM, p. 63-65/pdf.

[114] Cf. CEM, p. 245/246/pd, and CLEX-086, Hamaca, OPEX. Such costs are explained as projections for future sale of blended products on the Claimants' part (cf. Respondent's Cost Estimations for Hamaca, under Nos. 14 and 21). However, such production took never place and the Claimants' experts, while accounting for costs for naphtha, account in fact for the sale of by-pass EHCO that does not contain naphtha. In any event, the amount in US$ for the naphtha portions as mentioned do not comply with the quantities of EHCO by-passed if one would prefer understanding that such EHCO was used for the production of blended oil.

by-pass[115]. Such an accounting may be the source of errors due to the fact that prices for EHCO sold on the market are different (substantially lower) than those for CCO[116] and for oil blended with a diluent. For Hamaca, the total EHCO by-pass was 20,880,000 MMB[117]. On the other hand, EHCO by-passing the upgrader is covered by the expropriation of an asset or interest according to Article 2 of the 2007 Law, as it applies to blended oil.

337. At the outset, the Tribunal notes that there is no evidence on the production of blended oil during turnarounds in the Claimants' case. In addition, the wells' activity could be turned down but never stopped completely; there were quantities of EHCO to be disposed of when no upgrading capacities were available due to an ongoing turnaround. Part of such volumes of EHCO could be stored on the upgrader's site and disposed of as soon as the turnaround was terminated. Another part, exceeding such storage capacities, was sold as EHCO. These volumes of "EHCO by-pass" are not accounted for by the Respondent's experts[118], whereas they are included in the Claimant's experts' accounts together with prices in US$ that appear to represent amounts around 30% compared to the sales prices for heavy syncrude. They represent what the Claimants wrongly labeled as "blended oil".

338. The Tribunal has two ways to take account of this supplemental sale of EHCO that represents a loss when compared to the but-for scenario governed by the Association Agreements. One option would be to take account of the respective volumes of EHCO by-passed and sold during turnarounds separately, and to deduct the associated costs, royalties and taxes. The Tribunal does not adopt this method, because in the absence of reliable information on the latter items the result would be speculative[119]. The other option is based on the true function of the sale of EHCO by-pass, which is to compensate part of the loss in production of upgraded CCO during turnarounds. As will be explained below in part F, such compensation is made in the form of values additional to the total input of EHCO to the upgrader and the outgoing CCO.

---

[115] CEM, p. 52/pdf; Claimants' Final Submission on Quantum, para. 34, notes that during upgrader maintenance periods, the Petrozuata Project sold blended products. See also CEM, p. 15, recording a total of 934.9, an amount reduced by the Claimants' experts to 913.5 for the purpose of excluding the first half of year 2007; Abdala/Spiller, Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, footnote 37.

[116] In the valuation of the Claimants' experts, prices for EHCO sold are approximately 30% of the pricing of heavy syncrude; cf. CLEX-086, Revenues (Petrozuata and Hamaca).

[117] Cf. CEM, p. 244/245/pdf.

[118] Cf. Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, footnotes 129 and 152, where the reference to the sale of EHCO by-pass, respectively blended oil, during turnarounds by the Claimants' experts is noted.

[119] For instance, royalty would be fixed at 30% and not combined with the extraction tax to a total of 33⅓%.

c. The Reserves figures

339. The Tribunal recognizes the difference existing between the Reserves available for the Projects for their lifetime and the Reserves remaining in the fields after that until a later point in time when they will be completely exhausted after all available techniques for oil extraction have been used.

340. Nonetheless, the Tribunal notices a gap in the Respondent's reasoning. It is one thing to affirm that the full quantity of Reserves of the whole field will not be available for the Projects for the next 20 years, while it is a different matter to know the quantity of oil Reserves contained in the field that can be extracted by the Projects during their lifetime. In other words, while the Reserves of the field offer production of oil for a longer period than the term of the Projects, this does not state how much will be available for the Projects and how much will remain when they reach their term. In order to answer such question, one needs to assess either the Reserves available for the Projects or the difference between such Reserves and the Reserves of the field. The Respondent did not provide this information[120].

341. The information provided by the Ministry Reserves figures implies the use of techniques that are more developed and more productive than the cold production operated by the Projects. EOR techniques are mentioned in this respect. However, even when assuming that the Ministry Reserves cover Reserves contained in the field that are not accessible to the Projects as long as they do not change their operational mode, such information does not determine the quantity of Reserves available for the Projects.

342. What the Respondent calls Mr. Figuera's basic point, that the reserves available for the owner of the resources will always be higher than the Reserves for a particular project of a specific term, is of course correct. But it does not help to identify the quantity of Reserves available for the Projects. Mr. Figuera's formula would still be entirely correct if the Projects would leave one barrel of oil in the field when they leave the site. Further analysis is required.

343. One refinement of Mr. Figuera's basic point relates to the impact of costs. Contrary to the Projects' Reserves, that are accounted for only if recovery is certain or probable when using a technique that is known and proven, the Ministry's Reserves do not account for the impact of higher costs due to the use of new techniques and the difficulty to extract the field up to its point of exhaustion. There might come a point where the production based on the remaining Ministry's Reserves in the field becomes uneconomic, notably when compared to the costs of importing oil from abroad.

[120] The Respondent's valuation experts could have gathered such information when they visited the site, but they were instructed not to ask questions about the production of the reservoirs; TR-E, 2017 March Hearing, Day 12, p. 3613:3-9 (Flores).

344. The Respondent conducts its demonstration by reference to the Hamaca recovery factors of OOIP that differ from 5.4% to 11.7%, depending whether one looks at the 35-year life of the Project or at the life of the field. Again, even if correct, this does not show that the recovery of 5.4% would not be sufficient for the operation of the Project in accordance with its projections[121]. These figures do not explain either whether, or if so how, the potential recovery of the Project could not be increased, in order to capture quantities above 5.4% but still below 11.7%[122]. The same document identifies the crude recoverable until 2150 as 3,715 MMB[123], which is more than enough to allow the extraction of volumes envisaged by the Project. If the situation was as alarming as it is presented by the Respondent, one would expect to find at least a note in such a budget report. There is no such note.

345. It appears interesting to note that for the Huyapari field (that is part of Hamaca), the 2015 PDVSA Report records 4.5 billion Proved Reserves in 2015 (CLEX-090)[124] and compares this volume to an actual production of 151 MBD, which is stated to be in a relation of 1:83 to the Reserves. The reports relating to the years 2008 to 2013 note amounts of Reserves between 4.136 and 5.34 billion, with production numbers between 125 and 165 MBD per year (CLEX-039). The Report filed by PDVSA with the Security and Exchange Commission on 17 November 2006 reported 3.808 billion Proved Reserves for the Hamaca's Huyapari field, noting that at a production rate of 106 MBD, this would allow production for 98 years (C-258, p. 27, 42/pdf). Similarly, the Petrozuata figures had moved from 2.522 billion at the end of 2004 (same Report, p. 42/pdf) to 2.4 billion in 2006 (C-404) and 3.9 billion in 2010 (C-623)[125]. The Descriptive Report of 1996 had stated that a reserve of 2.7 billion was sufficient to guarantee the 1.5 billion to be produced by the Project during 35 years[126]. Any other position would run counter to the Association Agreement (C-21) where the parties accepted that 1.533 billion barrels could be currently planned as "Total Oil Required" (Art. I). It would seem far from reality to submit that the Project's reserves are pumped out in the near future.

---

[121] Cf. Figuera Appendix 75, slide 15.

[122] The Tribunal notes that the General Business Plan attached as Exhibit B with the Hamaca Association Agreement (C-22, p. 518/pdf) forecasts "a primary depletion recovery factor of 10.5%", grounding this conclusion on an estimated OOIP of 33 billion barrels and the current drilling plan, based on the results of laboratory studies, review and extrapolation of Block B production history, and reservoir simulation" (comment to figure 3).

[123] Figuera Appendix 75, slide 10.

[124] Figure confirmed by Witness Figuera, TR-E, 2017 February Hearing, Day 8, p. 2439:13-18.

[125] Witness Figuera did not object to this assumption (TR-E, 2017 February Hearing, Day 8, p. 2369:10-2374:14), having accepted earlier that the figure of 2.477 billion barrels was correct (TR-E, 2010 Hearing, Day 8, p. 2119:8-2120:10).

[126] Joint Venture Project (Maraven-Conoco) Petrozuata C.A. Descriptive Report, p. 130/pdf (C-92); Revision of Descriptive Report dated January 2000 (C-323, p. 59/pdf). Witness Lyons confirmed the numbers (TR-E, 2017 February Hearing, Day 7, p. 1893:12-1894:10, 1932:20-22) and the figure of 2.434 retained in 2006 (TR-E, 2017 February Hearing, Day 7, p. 2017:3-2019:9, 2020:16-2023:14).

346. The Parties have not provided evidence that allow the Tribunal to draw precise conclusions about the potential impact of EOR or techniques other than cold production. It has been stated that such techniques were uneconomic; it must be stressed that this was in 2003 or later, but before 2007. For instance, the Tribunal considers too short the Respondent's statement that the Petrozuata Board of Directors concluded at its meeting of 6 October 2005 that Enhanced Recovery (EOR) using steam-assisted gravity drainage (SAGD) was uneconomic (C-333). In fact, as the Minutes explain, the Board wanted to submit the matter to the representatives of the shareholders. It was noted that the Ministry imposed a limit on Petrozuata of 120,000 BPD of EHCO per month; the Minutes then say:

> Consequences – if the limit continues for the life of the concession, there is no incentive to change the current cold production techniques until or after the year 2030. (p. 297)

The Respondent's Witness Mr. Figuera was involved in actively considering a shift to EOR techniques, as noted in the Minutes:

> Ruben Figuera proposed that the Enhanced Oil Recovery (EOR) Pilot Project be considered to be a technology investment and, as such, that it be carried out using resources reserved for the contributions required by the Science and Technology Law, which has been estimated for 2006 at approximately US$ 34 MM. The members of the Board of Directors believe that this is a possibility, if other technology investments or expenses are not identified which would add to the amount of the estimated contribution. The members of the Board of Directors agreed to discuss this point in the scheduled meeting of shareholders in order to reach an agreement. (p. 300)

Mr. Figuera explained that the Project recognized that there was the capability, through the use of steam injection technology, of extracting oil with higher viscosity from the thicker sands that had already been exploited, but that such technology would be difficult to implement given the Project's earlier decision to drill extensively multilateral wells[127]. Witness Lyons also confirmed that such techniques were available when they became necessary in order to fill up the upgrader[128]. A Petrozuata EOR Information Package of March 2005 contained a feasibility study promoting EOR as an option to utilize the excess gas production on site (C-332).

347. The Respondent's rejection of any access to such techniques in later years and for the second part of the life of the Projects is not convincing in light of its submission of an expert opinion prepared by Dr. Rafael Sandrea concluding that steam injection "was likely no longer uneconomic

[127] Figuera, Testimony, 20 July 2009, para. 22; Supplemental Testimony, 26 January 2010, paras. 20, 27; Third Supplemental Testimony, 15 August 2014, para. 72.

[128] TR-E, March 2017 Hearing, Day 11, p. 3216:4-12.

in 2004 and certainly was not uneconomic by 2006 and 2007, when oil prices rapidly increased"[129]. This report stays in line with the deliberations of the Petrozuata Board of Directors in 2005[130]. The actual interest for such enhanced technology is also shown by the Respondent reporting about an "EOR assessment" at Hamaca in 2015 for which it claims reimbursement of costs of US$ 5.6 million[131]. The Tribunal understands that there was certainly a potential for introducing new and more efficient extraction techniques that would have enlarged the Projects' Reserves and increased their production[132]. Witness Figuera reported that all wells drilled since 2015 at Petrozuata have been fitted for ultimate steam-enhanced oil recovery in the future, a strategy consistent with the Ministry's directives to prepare for the use of EOR techniques to achieve a higher ultimate recovery factor of the fields[133]. PDVSA reported for the year 2009 that the project for steam injection (SAGD) "was launched as the method for obtaining improved recovery of extra heavy crude oil in the Orinoco Belt area, in order to increase the oil reserve recovery factor up to 60%"[134]. However, the Tribunal's record does not contain information and evidence sufficient to allow taking into account an extension of oil extraction in quantitative terms. Nonetheless, the availability of such techniques, supported by the Respondent's expert Sandrea from a time prior to the expropriation in 2006, make it possible to accept that the Projects had a potential of development that may have compensated in large part the alleged decline of the Projects' ability for EHCO recovery as argued by the Respondent in this proceeding.

d. PDVSA's management

348. The Tribunal considers it plausible that a number higher than usual of employees left Venezuela in the aftermath of the migration to *empresas mixtas* and the expropriation of two important holders of association agreements in the Orinoco Belt. It notes, however, that it has not received detailed information of such a move, and literally nothing about its impact on the operation of the Projects.

---

[129] Expert Testimony of Dr. Rafael Sandrea, 29 January 2010, p. 25.

[130] It was said that there were initiatives taken to introduce steam injection; TR-E, 2017 March Hearing, Day 11, p. 3188:4-3189:7 (Lyons), p. 3190:3-3191:7 (Figuera); TR-E, 2017 February Hearing, Day 9, p. 2702:15-21 (Patiño).

[131] Hamaca Project Cost Assessment, p. 49.

[132] The potential for the implementation of such future techniques had been recognized already in the General Business Plan attached as Exhibit B with the Hamaca Association Agreement (C-22, p. 518/pdf), noting that: "Secondary recovery using water, gas, steam or other methods is not planned at this time, but may be determined to be viable, as more is learned about the reservoir characteristics in the Specified Area" (comment to figure 3).

[133] Cf. Fourth Supplemental Testimony, 7 January 2015, para. 59; further Testimony, 20 July 2009, footnote 19; Supplemental Testimony, 26 January 2010, para. 27; Third Supplemental Testimony, 15 August 2014, footnote 207; Fourth Supplemental Testimony, 7 January 2015, para. 85.

[134] PDVSA Annual Report 2009, p. 716 (C-564).

349. The mere fact that PDVSA offered substantially lower salaries to the Venezuelan personnel does not demonstrate that the quality of their work was lower than the quality of the work performed by previous workers. It has been said that most experienced technical employees left the Projects when the expropriation occurred[135]. But what were the numbers and the concrete impact? No evidence has been provided. Similarly, the Claimants' suspicion that Chevron was no longer admitted to play a significant role in the operation and maintenance of the Projects, and the upgraders in particular is not supported by any evidence[136]. It is taken as a "key-assumption" of the Claimants' experts[137]. This is not the role of an expert. The Claimants could have provided witness testimony or could have expanded on the analysis of the agreements governing certain *empresas mixtas* where the foreign (minority) participants, like Chevron, had controlling functions as operators of important parts of the Projects[138].

350. The Tribunal noted that in certain respects, difficulties with the personnel have been observed and may have had the effect of lowering the progress of work, in particular during turnarounds on the upgraders[139]. This could have been a factor impacting on time and costs. It would have to be taken into account, if properly argued and supported by evidence. This will be considered later as a potential impact on costs.

C. Production at Petrozuata - Upstream

351. The Petrozuata Project was initially provided with a designated field comprised of a "Base Area" of 231 km^2 and a "Reserve Area" of 69 km^2 consisting of two areas, one to the south of the Base Area and the second to the east. The Project was supposed to be developed from the Base

[135] Lyons, Fourth Witness Statement, 16 May 2014, para. 22; TR-E, 2017 February Hearing, Day 6, p. 1573:3-11 (King).

[136] Witness Figuera stated that after the migration, engineers from Chevron became responsible for upstream planning and monitoring at Hamaca (cf. Testimony, 20 July 2009, para. 47). Chevron secondees occupied key positions (TR-E, 2017 March Hearing, Day 11, p. 3197:19-3199:4). Chevron was one of the most important partners in the country (TR-E, 2017 March Hearing, Day 11, p. 3199:12-14).

[137] Consolidated Update Report, 17 November 2016, paras. 8 (a, b), 46, 116, 214; TR-E, 2017 February Hearing, Day 6, p. 1696:21/22; 2017 March Hearing, Day 12, p. 3420:4-6, 3421:10-14, 3422:18-3423:2, 3426:15-3427:8, 3428:9-3428:20, 3437:16-19 (Abdala).

[138] The Contract for the conversion to the mixed company PetroPiar executed on 5 December 2007 (R-45) provided that the Technical and Operations Manager shall be nominated by Chevron Orinoco, and that the management structure shall be reviewed by the partners for the purpose of assuring that it responds to the objectives and purpose of the mixed company (Art. 4.2).

[139] The most explicit source constitutes the report on the PetroPiar turnaround of 2012, noting "deficient performance of contractors due to lack of experienced supervisors", "many decisions made without involving the planners", "lack of quality control and specialists by the contractor, to repair tanks", "insufficient personnel to cover the work shifts", "insufficient operational support personnel"; Figuera Appendix 46, PetroPiar 2012 Final Report on the PRAC, August 2013, p.87.

Area, and the Reserve Area was to be utilized only if the Project partners agreed that it was necessary and access was granted by the Ministry.

1. *The Claimants' Position*

352. The Claimants' experts took the most conservative oil production profile as it was contained in the ConocoPhillips Composite Economic Model that had been updated in late 2006 (LECG-085). This yields a projected recovery at Petrozuata of 913.5 million barrels of EHCO over the period between July 2007 and 2036[140].

353. A wealth of contemporaneous evidence confirms the reasonableness of the Claimants' production profile, in particular: (a) the Proved Reserves figures, as certified in August 2006 by the consulting firm D&M at 1.02 billion barrels of oil as of 31 December 2005 (LECG-078) and as at 31 December 2006 for SEC reporting purposes at 936.4 million barrels (LECG-006, 108); (b) the Petrozuata Economic Model from late 2006, showing a balance of 1.192 billion barrels (LECG-077, p. 468/pdf); (c) the Petrozuata Business Plan of 2006, forecasting total production of 1.235 billion barrels of EHCO from 2006 to 2036 (LECG-082)[141].

354. The Petrozuata Project would likely have achieved at least the level of production anticipated before the expropriation and used in the Claimants' damages model, which is conservative. Moreover, the Claimants would have promoted the use of EOR techniques, which would be expected to increase EHCO production by a factor of three times or more, and at a minimum would have enabled the Project to "keep the upgrader full" for the full contractual term (120,000 BPD).

355. PDVSA endorsed the production profile relied upon by the Claimants at the time. In June 2007, both the Respondent and Mr. Figuera affirmed that the Petrozuata Project would produce at least as much EHCO as required over its contractual term. From January 2005 until late 2006, Mr. Figuera was the President of Petrozuata. He approved oil recovery projections even greater than those assumed by the Claimants' experts. (a) The Petrozuata 2005 Annual Report projected that this Project would produce more than 1.6 billion barrels of EHCO over its operating life (LECG-106, p. 1). (b) In November 2006, Mr. Figuera delivered a presentation confirming that the Project was projecting the recovery of volumes of oil over 1.56 billion barrels of EHCO (C-324). In 2006, the Ministry announced that Proved Reserves at the Petrozuata field were 2.4 billion barrels, a figure certified by Mr. Figuera (C-471). The Ministry proposed almost doubling production at Petrozuata in August 2006, only 10 months before the taking (C-231). The Proved Reserves figures for Petrozuata that Venezuela has adopted and published after the expropriation remove any doubt

[140] Figure reduced from 934.9 covering late 2006 to 2036.

[141] This plan had not been approved by the Board, but for reasons unrelated to the productions, namely the proposed use of the Reserve Area (C-333).

about the field's ability to meet the Claimants' production profile, because they have been going up, from approximately 2.4 billion barrels as at the end of 2006 to 3.9 billion barrels now. 2010 is the latest year for which such figures were published.

356. Venezuela has chosen Mr. Patiño's pessimistic forecast, arguing that after the taking, the Petrozuata field has turned out to be far less productive than anticipated, and is now largely tapped out. Venezuela's date-of-award valuation assumes that the total EHCO production at Petrozuata from June 2007 to 2036 will be 522 million barrels. This hypothesis has to be compared to another, relating to the Ministry's Proved Reserves. Here the figures increased from 2.434 billion barrels in 2006 to 3.923 billion barrels in 2010 (C-404, C-623), while in parallel the Respondent's projections for production decreased from 653 million (Mr. Figuera) to 522 (Mr. Patiño).

357. Mr. Patiño adopts a decline rate for all wells in the field of 22% (corresponding to a 20% decline of the production rate). He uses this rate to suggest that a great number of new wells will need to be drilled each year. Further, he forecasts initial production rates for the new wells that will be drilled in the future. And he concludes that insufficient viable targets exist to supply the upgrader past 2021. The Claimants' expert Dr. Strickland explains that the core of Mr. Patiño's method – the use of simple decline curves – is inadequate, and the method itself fraught with mistakes.

358. Mr. Patiño calculates his decline rate by analyzing well test data for a total of 124 wells at Petrozuata, and he derives the median rate of decline for those wells, which he then applies to all existing and future wells in the field. Dr. Strickland shows that Mr. Patiño misapplies his own inadequate decline rate methodology. First, he uses well test data only providing for a brief "snap-shot" of a well's life, and do not account for routine operational changes that allow the prolongation of the lives of wells and the increase the amount of oil that they produce. Mr. Patiño should have used the fiscalized daily production. Second, Mr. Patiño wrongly conflates different types of wells. Some wells exhibit "exponential" decline (meaning they decline at a constant rate over time), while others are "hyperbolic" (meaning that the rate of decline constantly decreases over time). While two wells decline at an initial rate of 20%, the decline of the hyperbolic well subsequently reduces, with the effect that this well produces more barrels of oil over its life time than the exponentially declining well. Mr. Patiño acknowledges that about half of the 124 wells that he analyzed at Petrozuata exhibited hyperbolic decline. He nevertheless effectively did not make the distinction, thereby understating future production.

359. Mr. Patiño seems to have recognized his error when providing a revised decline rate in his Consolidated Report (paras. 42-45). His new analysis shows that when hyperbolic wells are properly taken into account, the field decline rate would drop from 20% to 14%, leading to a higher ultimate recovery. To avoid this result, Mr. Patiño reintroduced into his calculations wells that he had previously excluded, and he also calculated different decline rates for existing and new wells.

360. Dr. Strickland compared the production resulting from the decline rate determined for the 124 wells Mr. Patiño had chosen with what those wells actually produced during that same past period according to PDVSA's data. As Dr. Strickland showed, Mr. Patiño's analysis produces results that understate actual production during the historical period by a wide margin. Mr. Patiño's analysis results in an understatement of expected production at Petrozuata by approximately 367 million barrels of oil. Venezuela further refers to various Petrozuata documents that allegedly show decline rates similar to those claimed by Mr. Patiño. However, these documents generally comprise short-term assessments. They do not support Mr. Patiño's decline rate analysis.

361. For the Claimants, a further flaw is Mr. Patiño's conclusion that there were only 262 well targets remaining in the Petrozuata field as of 1 January 2009. Mr. Patiño applies an unrealistic standard to determine what oil sand bodies count as targets. Mr. Patiño's criteria are unreasonably restrictive. Had those criteria been applied in real life, a number of wells that the Petrozuata Project actually drilled would not have been drilled. Dr. Strickland shows that Mr. Patiño missed at least 22 additional viable well targets, even when applying his criteria. This mistake reduces the forecasted production by approximately 18 million barrels.

362. The Claimants also object that Mr. Patiño's production model exclusively assumes the drilling of single lateral, as opposed to multilateral wells. A single lateral well has only one horizontal bore, while multilateral wells have two or three horizontal bores at different depths. At the outset of the Petrozuata Project, the shareholders (including PDVSA) jointly decided to drill primarily multilateral wells. Multilateral wells proved themselves capable of producing significantly more oil at Petrozuata than single lateral wells. Once it took over operations at Petrozuata, PDVSA largely abandoned this strategy and reverted to drilling less productive (and also cheaper) single lateral wells. Prior to the taking, the Project projected drilling up to 250 multilateral wells from 2007 through 2036 (C-337, C-480). The Respondent claims that by November 2006, the Petrozuata Board of Directors lost confidence in the use of multilateral wells[142]. The documentary record is different. The Project continued to endorse the drilling of multilateral wells. In November 2006, Mr. Figuera gave a presentation favorable to such wells (C-324), followed by another presentation in February 2007 (C-374). Venezuela proceeds to argue that multilateral drilling is too risky. These criticisms are rebutted by the Claimants' witness, David Brown.

363. The Claimants conclude that when the necessary corrections to Mr. Patiño's forecasting model are made, as Dr. Strickland did, Mr. Patiño's model yields a production profile consistent with the one used by the Claimants' experts. This confirms the adequacy of these experts' pre-expropriation forecasts, whose achievability is confirmed by the Ministry's, PDVSA's and

[142] Cf. Respondent's Rejoinder on Quantum, 7 January 2015, para. 365; Figuera, Third Supplemental Testimony, 15 August 2014, para. 72.

ConocoPhillips' pre-expropriation Proved Reserves figures. The Claimants' documentation notes forecasted volumes of 118,200[143] and 118,000 BPD[144].

2. *The Respondent's Position*

364. The Respondent uses the data available in the business plans prior to the expropriation to show that the Petrozuata field simply could not produce the volumes that had been anticipated using cold production techniques over the term of the Project. This can be seen from a review of the production profiles and well-drilling programs reflected in the annual business plans and related documents since the year of the commissioning of the upgrader in 2001. An overview shows that the expected amount of total production varied between 1.76 billion barrels (2001), 1.59 (2002), 1.6 (2003), 1.58 (2004), 1.56 (2005), and 1.502 (2006). Production was set to fall off in 2027 (2001), 2033 (2004), 2029 (2005), and 2031 (2006). The total number of single-lateral horizontal wells required were initially 571, and then 745 (2002), increasing to 777 (2004). The 2002 business plan noted that 241 wells had been drilled. It was then noted the drilling of 21 wells in 2004 (2005), and a total of 56 new wells in the years 2005 to 2009, a number that increased in two steps from 83 to 116-119 the year thereafter (2006). In August 2003, the Project partners recognized that access to the Reserve Area would be necessary and that the Project would require more acreage beyond that Area in order to achieve EHCO feed rates to the upgrader of 120,000 BPD for the life of the Project. The Respondent further notes that ConocoPhillips projected that the production level of about 118,200 would last only until 2023, not 2031[145].

365. The Respondent further refers to a number of internal presentations of ConocoPhillips, noting a steep decline in production of multilateral wells between 2000 and 2007 and a further loss of 18% to be expected if no well-drilling program was conducted. A ConocoPhillips' summary is shown estimating a drop of ultimate recovery from 1.767 to 1.246 billion barrels. The steep downward trend for the period after year-end 2006 is further demonstrated by Project's documents estimating a decline rate of about 20% per annum, as shown by the weekly reports prepared by the reservoir personnel between 2004 and the first half of 2007, considering active wells, inactive wells and well repairs, the graph from a November 2006 presentation to the Petrozuata Board of Directors, reflecting an 18% annualized decline rate, a presentation to the Ministry in February 2007, and a June 2007 production capacity report reflecting a decline rate of 19.7%.

366. On this basis of information as per 26 June 2007, and relying in large parts on Mr. Figuera's evidence, the Respondent estimates that a total of 653.4 million barrels of EHCO would be

[143] Petrozuata 2006 Business Plan, p. 8/9/pdf (LECG-082); CEM 2006, p. 79/80 (LECG-085); Tables presented on 20 March 2017.

[144] Claimants' Memorial on Quantum, para. 120; Abdala/Spiller, Consolidated Update Report, 17 November 2016, para. 50.

[145] ConocoPhillips RCAT group, Building Production Capacity Reserves, October 2006 (C-474).

produced at Petrozuata using cold production techniques through 12 April 2036, and that those EHCO volumes would yield a total of 562.1 million barrels of CCO.

367. When looking forward into the period post-nationalization, decline rate becomes the key issue. It is at the core of Mr. Patiño's study. He relied on the periodic production (or well) test data for individual wells. He selected those wells that had six years of production data that did not present erratic behavior. Based on those wells, 145 in total, he determined that the appropriate decline rate for the wells at Petrozuata is 22% on an exponential basis. Mr. Patiño's analysis was aimed at deriving a decline rate that could be applied to all of the wells at the field over the entire term of the Petrozuata Project, not just the wells drilled in the best sands at the outset of the Project. Mr. Patiño explains that the wells that remained to be drilled at Petrozuata as of 1 January 2009 would be "in-fill" wells (*i.e.* wells drilled between existing wells in locations where field energy has already been substantially depleted) or that would be geologically and petrophysically less desirable. Such wells would tend to decline at steeper rates and almost invariably exponentially and not hyperbolically as this had been claimed by Dr. Strickland.

368. Mr. Patiño also determined that 262 new well targets remained to be drilled as of 1 January 2009. He assigned initial potential production rates to each of the new wells he identified. He estimated that the plateau period for the new wells at Petrozuata would last about six months for wells in the Base Area and 18 months for wells in the Reserve Area.

369. Mr. Patiño reached the following conclusions regarding Petrozuata: (1) As of 1 January 2009, the Project had drilled, completed and connected 373 production wells, 289 of which were active and 29 had minor problems requiring routine repairs. The potential production from those 318 wells totaled 112.1 MBD. In addition, 12 wells with a potential production of 6.1 MBD were assumed to be completed and connected to production by the end of 2008. This would result in a production capacity of the field of approximately 118.2 MBD as of 1 January 2009. (2) Mr. Patiño also assumed that during 2009, 29 new wells would be drilled and that 14 single-lateral wells would be drilled in replacing multilateral wells that failed. (3) Thereafter, Mr. Patiño added new wells year after year based upon the number of wells included in the drilling program assumed by the Claimants' experts. He also assumed that (a) additional single-lateral wells would be drilled to replace multilateral wells that failed, (b) 10% of the single-lateral wells would fail and be "re-drilled" and (c) wells would fail and be repaired at the annual rate of 16% of the active wells.

370. For the Respondent, Mr. Patiño's study shows that the field runs out of well targets in 2020. Production would start to fall off prior to that time, and it falls off dramatically thereafter, as there are no new wells to drill to partially offset the decline. In total, in taking account of the number of wells drilled and all those completed, re-drilled or completely new, Mr. Patiño's production capacity program assumes a total of 757 wells over the life of the Project. That figure is consistent with the number of wells that was assumed in the business plans prior to the expropriation.

371. Mr. Patiño concluded that for the period between 1 January 2009 through the term of the Petrozuata Project, a total of approximately 461 million barrels of EHCO would be produced and that EHCO production from inception of the Petrozuata Project through 12 April 2036 would total 848.4 million barrels. That figure is about 400 million barrels less than the volumes that the Claimants contend would be produced based on the outdated ConocoPhillips model that was prepared in 2006. Based on the substantial additional drilling activities that have taken place in the years since the ConocoPhillips model was prepared, it has become apparent that the field will not support either the production profile assumed in the Claimants' model on an annual basis in light of the well-drilling program set forth therein or the accumulated production volumes the Claimants and their experts assume.

3. The Tribunal's Findings

372. The Tribunal will not have to return to the figures tied to the Respondent's *ex ante* view of production as shown through its reading of the business plans for Petrozuata between 2002 and 2006. The minimal total production was estimated at 1.502 billion barrels in 2006. At that time, it was also admitted by all participants that a total of 745 (2002), respectively 777 (2004) wells were to be drilled, with a pace of about 10 to 24 new wells per year between 2005 and 2009, the total remaining still far below the expected total amount[146]. In light of the fact that the projected total of 777 wells has not been reached, the Respondent's submission that the Project lacked sufficient available targets is not convincing, and, in any event, not supported by evidence. Witness Lyons testified that at the end of 2006, 825 laterals remained to be drilled[147]. It also appears as common knowledge at that time that the lifetime of the Petrozuata Project will not end in 2036, but that a cliff will occur at the earliest in 2027. Although the Respondent claims that substantially lower production was observed before the expropriation, the figures presented do not support such a conclusion. None of the business plans between 2001 and 2006 showed daily production significantly lower than the maximum allowance of 120,000 BPD. The internal notes of ConocoPhillips on which the Respondent relies to show significant declines in production are not pertinent since the purpose of showing such declines was also to alert on the need for new wells. The weekly reports filed between 2004 and 2007 show many variations in the wells' productivity, and a decline in the years 2006 and 2007, but they do not provide any information on future drillings[148]. And how may it possibly be explained that the Ministry's proposed term sheet for migration, submitted in August 2006, suggested that Petrozuata will "no longer be subject to the production limit of 120 MBD",

---

[146] Cf. Figuera, Testimony, 20 July 2009, paras. 16-29; Patiño, Consolidated Expert Report, 17 October 2016, para. 20.

[147] Lyons, Rebuttal [3rd] Witness Statement, 14 April 2010, para. 11; TR-E, 2017 March Hearing, Day 11, p. 3210:17-3211:11. Mr. Lyons referred to the list provided in the Petrozuata Long-Range Plan of April 2006 (C-480).

[148] Cf. Figuera Appendix 102 (2004), 103 (2005), R-279 (2006), R-280 (January-June 2007).

and that the Mixed Company "is authorized to expand its capacity to 225 MBD, approximately" (C-231, C-232, C-236)?

373. For instance, the Respondent relies on a November 2006 presentation to the Petrozuata Board of Directors reflecting an 18% annualized decline rate, while it also adds that this applies "if no wells were to be drilled in 2007"[149]. The same decline is derived by the Respondent from a November 2007 presentation, however again subject to the proviso that such loss would occur "if the 2007 well-drilling program were not implemented in a timely fashion"[150]. As long as the total amount of wells that had been approved by all participants including the Respondent's company PDVSA had not been reached, there remains no convincing argument in support of a dramatic decrease or decline in production. Mr. Figuera exaggerates as well when pointing to a decrease of production capacity of the field to 108,000 BPD. The difference of 12,000 BPD up to the maximum is equal to the production of 15 wells at 800 BPD each, which corresponds approximately to the average number of wells drilled at that time per year. Moreover, a closer look to the document on which the Respondent[151] and Mr. Figuera[152] rely demonstrates that the purported decline in production was of a purely transitory nature in the year 2008, when the Claimants were no longer participants in the Project. Indeed, the report on the Production Capacity Petrozuata Oil Field of June 2007[153] simply notes that the current capacity in 2008 was 108,000 BPD and that a decline of the oil field was observed. The document then refers to an optimized drilling program for the implementation of new wells (p. 5) and notes that the construction of new well pads and wells had been severely impacted as a result of contractual delays, new ministerial regulations and restrictions on cash flow caused by OPEC reductions (p. 7)[154]. The report concludes that the negative impact

[149] Respondent's Final Brief on Quantum, paras. 100-104, 109.

[150] *Ibidem*, paras. 102/103.

[151] *Ibidem*, para. 102.

[152] Figuera Appendix 3: Production Capacity, Petrozuata Field, June 2007.

[153] Figuera Appendix 3, referred to in Figuera, Testimony, 20 July 2009, para. 23.

[154] See also the Petrozuata Preliminary Monthly Report of February 2007, p. 1 (LECG-156, p. 37/pdf), noting that in order to comply with the Ministry's restrictions, the monthly average EHCO production had to be reduced to 95MB per day. These restrictions were frequently a matter of debate. At the Board of Directors meeting of 7 June 2006, the limitations imposed above the 120 MBPD monthly average were mentioned as a handicap in view of raising the upgraders capacity to 145 MBPD or even 165 MBPD (C-347, p. 16/pdf). In the Minutes of the meeting of the Board of Directors of 13 September 2006 it was recorded that Mr. Figuera "stated that, since last year, Petrozuata has been proposing a modification in the production strategy in order to raise production capacity to the Maximum Demonstrated Capacity (MDR) of the Upgrader plant, instead of maintaining capacity at the 120 MBD authorized by the MENPET, and that the company requested a second drill which was not authorized at that time" (C-335, p. 19/pdf). This statement confirms that the maximum design capacity was based on instructions from the Ministry but could be increased in fact, and that further drilling was envisaged and feasible but not authorized at that time. At the next meeting on 15 November 2006, the "production cuts imposed by the MENPET" were again a matter for concern (C-336, p. 14/pdf). The Tribunal's record contains correspondence implementing these reductions as from September 2006 into the year 2007 (C-365-368, 370-372, 476). The Claimants alleged that these limitations on production had not been

in 2008 will not occur in 2009 (p. 8). It presents a time line providing for the addition of two wells per month starting within six months (so end 2008). The report adds as from 2009 onwards new well production of 10,560 BPD per year within four years (p. 10). Therefore, the decline that occurred was scheduled to be offset by new wells and none of the difficulties that had impacted the situation in 2008 bare any relation with the Project's characteristics as they existed when the Association Agreements came to an end.

374. Most of the Respondent's arguments in this respect are not only related to the *ex ante* situation but are presented to demonstrate a long-term decline of the Petrozuata field after 2009 and for the rest of its lifetime. Such a submission must fail because it leaves out of any perspective the consideration of events and projections pertinent for that future period.

375. The Claimants projected to recover at Petrozuata 913.5 million barrels of EHCO over the period from June 2007 to 2036. The overwhelming figures projected before the expropriation show numbers clearly above 1 billion barrels of EHCO Reserves. The latest available document shows 3.9 billion barrels for 2010[155]. The Tribunal finds that there is no argument left that the Project would not allow recovery of the quantity of EHCO required to meet the expected recovery of 913.5 million barrels (less the volumes of blended oil). Moreover, if the Respondent is of the view that this latter amount cannot be reached over the lifetime of the Project and that therefore the 2010 figure of 3.9 billion was not correct, it was its task to provide the pertinent evidence to which it has easy access. The Respondent has been asked several times to provide the pertinent business plans or other documents allowing an insight into the actual operation on site. It has not been willing to do what it was invited to do. It had not argued that this was an impossible task.

376. The Claimants have not provided annual numbers in their briefs. They were then submitted in their tables on production filed on 20 March 2017 where it was explained that the annual numbers were copied by their experts from the COP-Composite-Economic-Model of 2006 (CEM) (LECG-085), but expressed through more precise numbers in a December 2006 Full Valuation (CLEX-86). The numbers provided in these two documents mostly coincide and support an average production rate of 118,200 BPD from the beginning of the post-expropriation period, with the exceptions of turnaround years and without counting blended oil reported as sold during turnarounds.

377. While it appears plausible that wells exhibiting a "hyperbolic" decline produce a total of oil higher than wells showing "exponential" decline[156], the Tribunal need not entertain the debate

---

compensated by Maraven as this had been accepted in the Agreement dated 10 November 1995 (C-369; Claimants' Reply, footnote 255).

[155] People's Ministry of Energy and Petroleum, Petróleo y Otros Datos Estadisticos 2009-2010, p. 71.

[156] Mr. Patiño recognized that a shift from one approach to the other would cause a drop of his 22% decline rate to 17.3% for the wells already in production on 1 January 2009; cf. Consolidated Expert Report, 17 October 2016, paras. 42-44.

in this respect. First, the evidence presented does not allow the Tribunal to identify which well has to go into one or another category, nor would this – if it was possible – allow a reasonable extrapolation to the totality of the wells operating in the fields. Second, if this distinction was as important as this is argued, one should expect to find a respectable amount of traces in the Project's documentation submitted to the Tribunal. This is not the case. Therefore, the Tribunal must conclude that the Respondent did not find further support for this theory in the Project's archives or that it did not consider it relevant for the Tribunal anyhow.

378. In any event, the purpose of such demonstration and of the Respondent's arguments was to provide evidence for the actual decline of performance of the wells at the Petrozuata Project. This does not, however, demonstrate in itself that such decline has the effect of a corresponding decline of EHCO production. A decline in the wells' performance calls for the need to repair those wells that can be saved for better performance and to replace those that are definitely lost. Moreover, even if this was done and production was still declining, the Project would have to drill new wells.

379. Witness Lyons testified that wells' decline had a reason other than what results from a simple observation of wells' performance. He recalled that the Petrozuata Project had drilled predominantly multilateral wells that were much more productive than singular lateral wells. When the Claimants had left the Project, PDVSA decided to change strategy and to focus on drilling of singular lateral wells only. With these wells the ultimate recovery of oil was much lower (about 20 to 30 percent)[157].

380. Mr. Patiño does not go as far. His analysis is focused on observing a strong well's production, while he did not examine with any detail the potential for improvement in production through an increase in drilling new wells, re-drilling, replacing and repairing of wells. Without this other part of the overall view of net figures on production, the resulting conclusions are incomplete and cannot identify the recoverable EHCO quantities on the sites. When Mr. Patiño was asked at the February 2017 Hearing whether he did check his work with the target wells in the post-expropriation models with the new companies, he told the Tribunal that he did not verify it[158], adding that asking for them "wasn't part of my job"[159]. He further confirmed that the Projects ought or must have such lists[160]. On the other hand, no dynamic model of the reservoir did exist[161]. Witness

[157] TR-E, 2010 Hearing, Day 4, p. 1077:5-1078:17; Day 5, p. 1329:2-1332:13; Second Witness Statement, 30 October 2009, paras. 10, 11, 13, 24, 30; Fourth Witness Statement, 16 May 2014, para. 21; Fifth Witness Statement, 13 October 2014, paras. 43-48.

[158] TR-E, 2017 February Hearing, Day 9, p. 2681/1-5.

[159] TR-E, 2017 February Hearing, Day 9, p. 2679/10-12.

[160] TR-E, 2017 February Hearing, Day 9, p. 2678/14-2679/8.

[161] TR-E, 2017 February Hearing, Day 9, p. 2752:9-2756:5 (Patiño), p. 2842:21-2843:15, 2851:9-13 (Strickland). However, Mr. Patiño also said that before the expropriation the Hamaca Project used a Dynamic Reservoir Model for

Figuera mentioned the existence of a "Strategic Plan"[162]; however, such plan has never been presented to the Tribunal[163].

381. Mr. Patiño did not comply with a fundamental equation contained in a document he had submitted to the Tribunal:

> New development wells and/or recompletion of existing wells will occur in every year during the project in order to offset production decline[164].

This formula provided in a document relating to Hamaca does of course equally apply to Petrozuata[165]. Mr. Patiño did not determine the number of new wells required (staying instead with the maximum of 757 wells projected from the very beginning of the Petrozuata Project), and he retained the same number of new wells to be drilled in the years 2009 to 2020 as projected at the same time, without adding any new well as from 2021 for the remaining 15 years of the Project, although he must have been aware that the decline of wells he observed required necessarily more wells to be drilled and to be replaced than he had planned. In other words, Mr. Patiño missed the goal of offsetting production decline[166].

382. The inconsistency of Mr. Patiño's approach with the characteristics of the Project can also be shown when regarding the option taken at the very beginning of the Projects in respect of decline rate. Mr. Figuera testified that this rate was 20% for Petrozuata[167]. If this had been the starting rate for the Project's wells' decline, why did no one at the time consider closing the site soon after 2007

its production (TR-E, February 2017 Hearing, Day 9, p. 2569:2-16). He told that after the expropriation, PetroPiar used a geological model with which they were able to establish additional drilling targets to maintain their production potential (*ibidem*, p. 2574:6-11). Mr. Patiño also accepted that where an updated Dynamic Model did exist it was pointless to use simple decline curves to predict production (*ibidem*, p. 2569:2-11).

[162] TR-E, 2017 March Hearing, Day 11, p. 3126:18-3127:12.

[163] The Respondent's experts did not ask that the plan be provided to them; TR-E, 2017 March Hearing, Day 12, p. 3595:13-3596:2 (Flores).

[164] Patiño, Appendix 7, Petrolera Ameriven S.A., Hamaca Project, Upstream Plan of Development: 190,000 BOPD, Orinoco Extra Heavy Oil Belt, Venezuela, Draft, December 3, 1999, p. 125, further noting that in relation to risks and projects' parameters, it was always required to ensure that the number of wells were such that it was possible to make 190'000 BPD (p. 246) and that there may be a cushion to enable the field to produce over 190 MBOPSD in the event of a shortfall (p. 247).

[165] Mr. Figuera's Presentation on Petrozuata's Challenges of Exploitation in 2006 listed as one of the operational challenges: "Maintaining production capacity to feed the Upgrader Plant at Maximum Proven Capacity (MDR)." (C-324).

[166] Cf. Strickland, TR-E, 2017 February Hearing, Day 9, p. 2855:12-2857:1.

[167] Figuera, Testimony, 20 July 2009, para. 29.

when Mr. Patiño projected on the basis of the same or a similar rate an increasing shortfall of EHCO production beginning in 2009?[168]

383. Mr. Patiño's methodology shows that when considered on a larger scale of available data, including a more representative selection of wells and a realistic assumption of available targets, the conclusions to be drawn from his method are not capable of demonstrating a net decline of oil production to such an extent that the production projections prevailing at the time would not be reached. Such a demonstration would have to include both sides of the coin, the effective decline on one side, and the failure to provide for sufficient new, replaced and repaired wells on the other[169]. More important is Mr. Patiño's reliance on quantities of EHCO that were required for the more limited actual production and sales of CCO since 2009, while he admitted that a greater quantity of EHCO was in fact available and would have allowed supporting production of upgraded syncrude to the extent required by the projections adopted by the participants in the Association Agreements. A selection of figures retained by Mr. Patiño may illustrate his assessments:

[168] Cf. Patiño Appendix 81, Output.

[169] Cf. Witness Lyons, Second Witness Statement, 30 October 2009, para. 36; TR-E, 2017 March Hearing, Day 11, p. 3153:16-3158:2. He explained the interaction between decline and new wells drilling, adding that the actual drilling of new wells was sometimes delayed when the rig was engaged on another site and thus not available on short notice.

	Mr. Patiño's data						Actual data		
	Active Potential EHCO Production[170]		EHCO Production to Upgrader[171]		CCO for sale[172]		EHCO required for blending[173]		Total EHCO required for upgrading and blending (column 5 + 9)
	BPD[174]	MMB	BPD	MMB[175]	BPD	MMB	BPD	MMB	MMB
2009	120,723[176]	44,067,180	105,501	38,508,000	90,953	33,198,000	9,124	3,330,131	41,838,131
2010	120,984	44,159,160	69,021	25,192,000	59,503	21,718,000	35,526	12,966,954	38,158,954
2011	114,022	41,618,030	76,637	27,972,000	66,068	24,115,000	24,061	8,782,320	36,754,320
2012	110,907	40,481,055	107,674	39,409,000	92,826	33,974,000	0	0	39,409,000
2013	107,737	39,324,005	94,262	34,405,000	81,263	29,661,000	16,500	6,022,542	40,427,542
2014	103,313	37,709,245	82,351	30,058,000	70,995	25,913,000	28,759	10,497,121	40,555,121
2015	98,876	36,089,740	70,592	25,766,000	60,858	22,213,000	36,055	13,160,089	38,926,089
Sub-total	776,562	283,448,415	606,038	221,310,000	522,466	190,792,000	150,025	54,759,157	276,069,157
Ave. / year	110,937	40,492,631	86,577	31,615,714	74,638	27,256,000	21,432	7,822,680	39,438,451
1	2	3	4	5	6	7	8	9	10

384. From the year 2016, when he had no actual figures for CCO available, Mr. Patiño selected the figures for Potential EHCO Production less 10% to determine EHCO Production to Upgrader and from there (x0.8621) CCO. Four years are here selected for the purpose of illustration. As a matter of fact, looking at his table, it is only as from 2019 that the results of his decline study are impacting seriously EHCO production at Petrozuata, with a further kick-down in 2024.

[170] Patiño, Appendix 81, Output.

[171] Cf. Consolidated Expert Report, 17 October 2016, para. 116; Patiño, Appendix 81, Output. These numbers are re-calculated from the volumes of CCO mentioned in Mr. Patiño's Consolidated Expert Report, 17 October 2016, para. 116 (with a yield factor of 0.8621); for 2009-2013, the numbers for BPD have been copied from Mr. Figuera's Third Supplemental Testimony, 15 August 2014, table 4, para. 87, based on Appendix 81.

[172] The numbers for 2009-2015 are all copied from the Consolidated Expert Report, 17 October 2016, para. 116, where Mr. Patiño explains that he took them from Mr. Figuera's Third Supplemental Testimony of 15 August 2014, table 4 (para. 87), where reference is made to Appendix 81. This is correct for the years 2009-2013. However, Mr. Patiño did not observe that Mr. Figuera updated his documentation and submitted a new set of invoices in his Appendix 108, further noting the results in his Fourth Supplemental Testimony of 7 January 2015, table 2, para. 20, from where the numbers on EHCO production have been copied in the Respondent's Assessment of Production submitted on 2 June 2017.

[173] These quantities represent 76.67% of blended oil sold as per the information submitted by the Respondent at the 2017 March Hearing, and also contained in the Petrozuata Assessment of Production, p. 1 (for the quantities of MMB).

[174] Mr. Patiño also provides the figures for "Year Start", which are slightly different and less suitable for comparison purposes. Cf. Consolidated Expert Report, 17 October 2016, para. 116; Patiño, Appendix 81, Output.

[175] The numbers have been rounded by Mr. Patiño.

[176] The number of BPD for 1 January 2009 is 118,189. This figure has not been verified by Mr. Patiño, but has been derived from the production potential of 121,900 BPD as identified in Mr. Figuera's Testimony of 20 July 2009, para. 30. Mr. Patiño then proceeded with some minor adjustments, resulting in the figure of 118,200 BPD; cf. Consolidated Expert Report, 17 October 2016, para. 21; Expert Report, 18 August 2014, para. 141.

	Active Potential EHCO Production		EHCO Production to Upgrader		CCO for sale	
	BPD	MMB	BPD	MMB	BPD	MMB
2017	95,526	34,866,990	86,829	31,692,000	74,855	27,322,000
2021	66,070	24,115,550	60,036	21,913,000	51,757	18,891,000
2025	28,076	10,247,740	25,511	9,312,000	21,993	8,028,000
2029	11,472	4,187,280	10,423	3,804,000	8,986	3,280,000
Total 2009 to 2036				460,950,000		397,385,000
1	2	3	4	5	6	7

385. Since the new operational mode of production was set up in 2009, EHCO supply served two different sales products, *i.e.* either upgraded oil or blended oil (DCO or Merey 16). For the years 2009 to 2015, Mr. Patiño admits that more EHCO quantities were available (column 2/3) than the EHCO quantities supplied to the upgrader (cf. column 4/5). The extreme is shown for year 2010, where a production of EHCO of 120,984 BPD is reported, while the upgrader's availability was limited to 69,021 BPD, after it had been set at 105,501 BPD the year before.

386. When taking account of both lines of production, it appears from the total (column 10) that starting with year 2013 the quantity of EHCO actually used (for CCO and blending) was higher than the volume that Mr. Patiño accepted as available for potential EHCO production (column 2/3). From year 2016, the Tribunal has no evidence on the record for the amounts of blended oil produced and sold. When taking the average amount of about 21,000 BPD EHCO used for blending (column 8/9) per year as a guideline, it appears that from 2017 until 2036 this number is clearly above (in many years for an amount around 10,000 BPD) the difference between the quantities Mr. Patiño identifies as "total potential ECHO production" and "EHCO production to upgrader"[177]. This means that the actual and projected production numbers are higher than what Mr. Patiño determined as the maximum EHCO production at Petrozuata.

387. Mr. Patiño's volumes for total potential EHCO available on the sites (column 2/3) are always higher than the actual volumes extracted by the wells (column 4/5) for the purpose of producing upgraded CCO (column 6/7). This applies for two periods, the one between 2009 and 2015, and the other covering the years 2017 to 2036. Therefore, more EHCO was in fact available than what results from Mr. Patiño's conclusions.

388. The foregoing is also confirmed when considering the estimated quantities of EHCO used for blending. When added to the volumes used for upgrading, the resulting amounts (column 10) are telling from two perspectives: (1) the added amount is always higher than the EHCO supplied for upgrading – thus showing that the EHCO taken into the upgrader is below the EHCO available; and (2) more importantly, this amount comes close to the actual feeding capacity of the upgrader

[177] See Consolidated Expert Report, 17 October 2016, para. 116; Patiño, Appendix 81, Output.

as mentioned by the Claimants (118,000 BPD). The difference is about 10,000 BPD, which is hardly more than 12 new wells producing at a pace of 800 BPD.

389. For his definition of the available wells, Mr. Patiño adopts a personal approach when he identifies characteristics of wells and their potential decline, but he does not proceed in the same way when it comes to determining the available potential for new wells and new targets. Dr. Strickland has rightly observed that a comparison to the quantities of certified Proved Reserves would have provided a serious picture about the possibility for extending drilling of wells[178]. It is indeed beyond commercial efficiency to accept Mr. Patiño's view that in about a few years (2020), and fifteen years before the end of the Project, no new well will be drilled, and that the EHCO provided to the upgrader will be about 50% below its design capacity[179].

390. With a closer look at the key points of new wells to be drilled, the Tribunal notes that Mr. Patiño projected 372 additional wells from 1 January 2009 (composed of 262 new wells, 68 replaced wells and 42 re-drills), a number that differs by one single well from the 373 wells added to the Project as per Mr. Figuera's testimony[180] five years earlier. Furthermore, on the same table, Mr. Patiño adopted exactly the same numbers of new wells to be added, year by year from 2009 to 2019[181]. For year 2020, Mr. Patiño noted 31 new wells, while Mr. Figuera had 32. For Witness Lyons, wells were still to be drilled in year 2024[182].

391. More remarkably, Mr. Patiño does not provide for any new well as from year 2021, although the Respondent's Witness Mr. Figuera stated that the Project's planning included 37, 48 and 25 new wells to be added in the period between 2021 and 2023. Mr. Patiño's assumption is equally surprising in comparison to the Petrozuata Economic Model for late 2006 that forecasted drilling between 18 and 31 wells per year from 2022 to 2028, and then 41 in 2029 and 19 in 2030, ending with 3 in each year 2031 and 2032[183]. Mr. Patiño opposed Dr. Strickland's assessment that 22 additional targets were available, stating that this would not have a significant impact[184]. Dr. Strickland's opinion[185] would have deserved more attention, all the more since he asserted a corresponding increase of 18 million barrels for the lifetime of the Project, which results in approximately half a million barrels per year. In any event, the maximum numbers of projected wells in the future

[178] Cf. Consolidated Expert Report, 17 October 2016, paras. 39-44.

[179] Cf. *ibidem*, para. 116.

[180] Figuera, Testimony, 20 July 2009, para. 29.

[181] *Ibidem*, para. 30.

[182] TR-E, 2017 February Hearing, Day 8, p. 2205:2-4.

[183] LECG-077, p. 469/pdf.

[184] Cf. Consolidated Expert Report, 17 October 2016, paras. 111, 115, Appendix 85.

[185] Cf. *ibidem*, paras 108-110. Also TR-E, 2017 February Hearing, Day 9, p. 2768:8-2771:1.

serve the purpose of planning work and budget; they do not set limits in such a way that no more wells above such figures could be drilled in the future in order to keep the upgrader full, if the economics allow[186].

392. In sum, Mr. Patiño stays very close to the original assessment of production and drilling activities, using numbers that are close of being identical to those presented through the testimony of Mr. Figuera. As he explained to the Tribunal, he was instructed to use the volumes of CCO for sale up to 2015 and to calculate the amount of EHCO required on this basis[187]; therefore, he identified the EHCO production needed on the basis of the historical CCO that had been sold year after year[188]. Such an approach does not include considering whether the upgrader would not be able to produce more CCO as this had been done before 2009. The Tribunal finds that Mr. Patiño's assessment of the decline rate of the wells does not include sufficient consideration of the potential of compensation through new wells and increasing work on maintenance and repair (and the associated increase in costs). This item is only marginally addressed in Mr. Patiño's decline analysis[189].

393. This gap in Mr. Patiño's analysis also appears when a comparison is made with the estimations that Mr. Figuera had presented in his first testimony, where the starting production capacity of the Petrozuata Project was set at 121.9 MMB[190], a figure on which Mr. Patiño also relies as a bottom reference to his own projections[191]. Mr. Figuera used a declination rate of 20%, while Mr. Patiño used the same or a similar rate (with some variations that are not pertinent for the comparison as it follows). However, their figures for EHCO production to the upgrader retained at the year-end are markedly different:

BPD	EHCO Production to upgrader (Mr. Figuera)	Active EHCO Potential Production (Mr. Patiño)	EHCO Production Mr. Figuera v. Mr. Patiño
2009	121,900	120,723	- 1,177
2015	89,000	98,876	- 9,876
2017	88,700	95,526	- 6,826
2019	80,600	81,989	- 1,389
2020	77,100	74,603	+ 2,497
2021	75,800	66,070	+ 9,730
2025	52,100	28,076	+ 23,924
2029	30,200	11,472	+ 18,728

[186] Cf. Witness Lyons, TR-E, 2017 March Hearing, Day 11, p. 3204:2-3207:7.

[187] TR-E, 2017 February Hearing, Day 9, p. 2666:9-15.

[188] TR-E, 2017 February Hearing, Day 9, p. 2744:4-7.

[189] Consolidated Expert Report, 17 October 2016, paras. 106/107.

[190] Testimony, 20 July 2009, para. 30, p. 19.

[191] Consolidated Expert Report, 17 October 2016, para. 21, note 33.

Starting in year 2020, the last year when Mr. Patiño provides for new drills, the EHCO production figures of Mr. Figuera get higher and higher compared to those of Mr. Patiño although Mr. Figuera's decline rate is close to the rate used by Mr. Patiño. The main explanation must be Mr. Patiño's assessment of EHCO production on the fields, which includes his method of determining declining wells and a restrained consideration for the drilling of new wells.

394. The Respondent[192] and its valuation experts[193] adopt the approach and the results of Mr. Patiño's method and report, and they include in their presentation the figures relating to the historical period between 26 June 2007 and the end of 2008. Their conclusions are as follows:

	EHCO Production to Upgrader		CCO for sale	
	BPD	MMB	BPD	MMB
Mr. Figuera[194]				
End 2007	106,132	19,531,383	84,505	15,568,593
2008	113,111	41,398,549	97,543	35,700,904
subtotal	111,288	60,929,932	93,643	51,269,497
Mr. Patiño				
2009-2036		460,950,000[195]		397,385,000[196]
Total		521,879,932		448,654,497

395. To conclude, the Respondent's presentation, resting on Mr. Patiño's analysis exclusively focused on decline rates, cannot be retained by the Tribunal. There has been brought no evidence before the Tribunal that the production at Petrozuata may be limited to quantities significantly lower than the upgrader's design capacity of 120,000 BPD, which corresponds to 43,800,000 MMB. For the period between 2009 and 2015, the figures provided by Mr. Figuera, combined with the EHCO required for the sale of blended oil, confirm this assessment:

---

[192] Respondent's Final Brief on Quantum, para. 325. The numbers for 2007 and 2008 are contained in the *ex ante* table, para. 113.

[193] Cf. Brailowsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, paras. 246-249. The numbers for 2007 and 2008 are contained in the *ex ante* table, para. 74.

[194] Testimony, 20 July 2009, paras. 11/12. The amounts quoted by the Respondent and its experts are slightly different for 2007.

[195] This number became 474,753,000 in Mr. Patiño's last update under Appendix 90. However, he stated that the difference was negligible and he did not use it in his Consolidated Expert Report, 17 October 2016, cf. paras. 44, 116, nor did he use the figures composing this final amount. The Respondent and its valuation experts have also not adapted their figures to this last version.

[196] As this has been noted above in respect of Mr. Patiño's numbers on CCO sold between 2009 and 2015 (column 6/7) they were copied from Mr. Figuera's Third Supplemental Statement, 15 August 2014, para. 87, table 4 and the attached Appendix 81, not noting that Mr. Figuera had updated his information in his Fourth Supplemental Testimony and the attached Appendix 108. The Respondent and its valuation experts have relied on Mr. Patiño's numbers, with the effect that their numbers are equally incorrect, and, as a consequence, any subsequent calculation based on them.

2009-2015	EHCO Produced	CCO Produced[197]	EHCO required for CCO invoiced	CCO Invoiced	Blended Oil Sold[198]	EHCO required for blending	Total EHCO used for upgrading and blending (column 4 and 7)
2009	38,745,784	31,173,844	38,507,947	33,197,701	4,343,460	3,330,131	41,838,078
2010	34,221,901	19,511,360	25,192,499	21,718,453	16,912,683	12,966,954	38,159,453
2011	32,092,161	23,205,820	27,972,368	24,114,978	11,454,702	8,782,320	36,754,688
2012	37,809,627	32,692,940	39,408,584	33,974,140	0	0	39,408,584
2013	40,884,534	28,447,930	34,405,492	29,660,975	7,855,148	6,022,542	40,428,034
2014	40,253,749	26,300,630	30,058,054	25,913,252	13,691,302	10,497,121	40,555,175
2015	38,760,178	23,498,940	25,766,208	22,213,048	17,164,587	13,160,089	38,926,297
total	262,767,934	184,831,464	221,311,152	190,792,547	71,421,882	54,759,157	276,070,309
p/year	37,538,276	26,404,495	31,615,879	27,256,078	10,203,126	7,822,737	39,438,616
p/day, BPD	102,845	72,341	86,619	74,674	27,954	21,432	108,051
1	2	3	4	5	6	7	8

This data shows that the amount of EHCO required to produce the EHCO needed for the upgrading and the sale of blended oil (in a proportion of 76,67%) are close to the maximum of 43,800,000 MMB design capacity for EHCO supply to the upgrader. The key figure to be considered by the Tribunal is 43,070,000 MMB, which corresponds to the 118,000 BPD the Claimants affirm as the feeding capacity of the Petrozuata field.

396. At this juncture, the figures to be retained are those relating to the EHCO Production Capacity. As mentioned above, the EHCO Production required for CCO Production is noted for informational purposes, because these quantities reflect the operational choices made as from 2009, with the effect that the CCO production was significantly reduced compared to the situation prior to that change, albeit complemented by the sale of blended oil[199].

[197] Petrozuata Assessment of Production, p. 1; Figuera, App. 109. The EHCO required for the production of the quantities of CCO mentioned in the table represents numbers lower than those mentioned above under EHCO Produced (column 2). As explained by Mr. Figuera, the Project produced more EHCO than the quantities of EHCO required for the CCO that was produced, according to his figures. The required EHCO quantities are provided in Mr. Figuera's Fourth Supplemental Testimony, 7 January 2015, and they can be calculated by dividing the figures of CCO Produced by the yield factor of 0.8621 (*e.g.* 26,404,495 CCO p/year: 0.8621 = 30,628,112 EHCO).

[198] Submitted by the Respondent at the March 2017 Hearing; Petrozuata Assessment of Production, p. 1, referring to Figuera Appendices 110, 112. Blended oil is composed of 76.67% EHCO and 23.33% diluent (Naphtha or Mesa).

[199] The operational choice mentioned above is accepted by the Respondent also in its impact on costs. As stated in the Respondent's Cost Estimation for Petrozuata filed with the Tribunal on 2 June 2017, in the "but-for" scenario, EHCO production would have been lower than it was in actuality, since only the EHCO that could be upgraded would have been produced. Therefore, the Respondent has deferred costs relating to drilling new wells so that the production capacity would be commensurate with the capacity required for EHCO production needed for actual CCO sales (p. 14). In other words, more new wells were actually drilled for the purpose of extracting sufficient EHCO to meet the need for upgrading to CCO and providing the 76.67% portion of the blended oil. This also means that more volumes of EHCO have been and still were available when further drilling new wells, more than what has been affirmed by Mr. Patiño in this proceeding.

397. To obtain the approximate volumes of EHCO that would have been available when no blending was permitted, the amount of EHCO required for the production of the relevant corresponding CCO sold (taking account of the yield factor) has to be added to the EHCO portion of 76.67% in the blended oil[200]. As shown in the table above, the amounts thus reached (column 8) are comparable to those reported as overall "EHCO Produced" by Mr. Figuera (column 2). Approximate amounts of 39,500,000 MMB and 108,000 BPD can thus be retained as actual EHCO production figures experienced per year between 2009 and 2015[201].

398. These amounts become a little higher when also including the results of the EHCO production following the 18 months since the expropriation up to the end of 2008, when a total of 60,929,932 MMB has been produced, corresponding to an average of 111,288 BPD. In appropriate proportions, this allows the conclusion that in the period since the expropriation until the end of 2015, an actual average amount of 40,000,000 MMB per year has been produced, corresponding to 110,000 BPD.

399. Mr. Patiño's assumptions on decline rates for the years starting in 2016 cannot serve as projection for the Tribunal's assessment of the most probable development of the Project had the expropriation not taken place. The Tribunal has no evidence on the record addressing the specific question of the available volumes for EHCO production from the fields for the period running up to the end of the Project's lifetime. The Reserves figures do not, as stated, impact negatively the prospects for sufficient production corresponding to the volumes projected on the basis of the Association Agreements. The actual EHCO production for the years 2009 to 2015 of 39,500,000 MMB and the numbers above this figure representing sales made before 2009 when the CCO production was combined with the sale of blended oil, indicate targets, however subject to improvements through increases in drilling and maintenance efforts that the evidence on the Tribunal's record has not shown to be out of reach.

400. The EHCO production of 118,000 BPD alleged by the Claimants[202] corresponds to 43,070,000 MMB. These volumes are slightly above the actual figures for the period between 2009 and 2015 (39,500,000 MMB) and the actual average amount of 40,000,000 MMB for post-

[200] The resulting figures are comparable to the numbers shown by Mr. Figuera as "EHCO Produced". However, they are far below the EHCO Production Capacity reported by Mr. Patiño.

[201] The Tribunal notes that the Respondent also argued that based on Mr. Patiño's program the quantity of EHCO used for blending as from 1 January 2009 "is assumed to remain in the ground until needed for CCO production" and that therefore "the larger number of wells actually drilled in the historical period is reduced (thereby reducing historical costs), since the excess EHCO production would not have been necessary" (Respondent's Final Brief on Quantum, para. 317 *in fine*). The whole theory on EHCO stored underground for the purpose of later CCO production has no real basis, but if it would be admitted, as suggested by the Respondent, there would be more wells available than actually drilled, thus offsetting any decline even without drilling new wells. Mr. Patiño's conclusions would then be irrelevant even for the Respondent.

[202] Claimants' Memorial on Quantum, para. 120; Abdala/Spiller, Consolidated Update Report, 17 November 2016, para. 50.

expropriation time in the years 2007 to 2015. The Tribunal finds no evidence and no convincing argument that would prevent it from retaining these figures for EHCO production at Petrozuata if the Association Agreements and the operation having the Claimants as partners had remained in place. These are standard figures based on the production capacity of the fields. They will have to be reviewed in light of the production capacity of the upgrader.

D. Production at Hamaca – Upstream

401. The Hamaca Project was planned for a designated production field from which to produce EHCO. The field was comprised of a main area (called "H" for Huyapari Block), and a reserve area to the south (known as "M" for Maquiritare Block), which was relinquished prior to the nationalization. The major constraint at Hamaca – and the main source of difference between the Parties – is the ability of the upgrader to process EHCO in the production of CCO. This issue will be examined further below (E).

1. The Claimants' Position

402. The Claimants submit that the production profile used by their experts for Hamaca Projects results in the recovery of approximately 1.864 billion barrels of EHCO from June 2007 to 2037, which corresponds to an average EHCO production level of approximately 175,000 BPD. That profile is taken from the Hamaca's Project's own Economic Model (prepared by Petrolera Ameriven), as last updated in October 2006 (LECG-129).

403. This oil production profile is consistent with other data showing expected production from the Hamaca field. (1) In February 2007, a ConocoPhillips team calculated Reserves for 1.96 billion barrels (LECG-111, p. 9/pdf). Recently, PDVSA reported the Proved Reserves to be 4.6 billion barrels (CLEX-090, p. 39). (2) The 2005 Hamaca Business Plan contains future oil production projections that are consistent with the figures used by the Claimants' experts (LECG-122/112). (3) ConocoPhillips Economic Model, in its last version produced in late 2006, projected the recovery of 1.894 billion barrels of EHCO over the life of the Project (LECG-085), an amount later adjusted to 1.864 billion barrels[203].

404. The Claimants recall that in the first phase of this case, Venezuela relied on a production forecast for Hamaca that estimated the recovery of 1.672 billion barrels of EHCO from the date of the expropriation through the end of the Project's term[204]. This forecast rested largely on the same EHCO profile used by the Claimants' experts, but with a reduction to the Hamaca upgrader's OSF.

[203] Claimants' 2017 Post-Hearing Brief, para. 35.

[204] Consolidated Expert Report on Valuation, 17 November 2016, para. 83.

In the later quantum phase, Venezuela used a more pessimistic forecast that foresees the recovery of only 1.051 billion barrels of EHCO from June 2007 until the end of the Project[205]. This forecast is premised on an even more desultory OSF for the Hamaca upgrader now predicted by Mr. Figuera.

405. Venezuela's future EHCO production forecast in the quantum phase is again derived from Mr. Patiño's theoretical model. Mr. Patiño introduced into his model Mr. Figuera's assertion that the Hamaca upgrader will achieve an OSF of only 72.85% for the remainder of the Project's term. As a result, Mr. Patiño artificially constrains EHCO production, so that the model can never yield a production figure of more than 143,432 BPD of EHCO[206]. The limit Mr. Patiño introduced into his model prevents the upgrader from ever operating beyond Mr. Figuera's OSF forecast. Thus, the production figures under his model will always be wrong. Mr. Patiño's EHCO production volumes for the historical period (2009-2015) substantially deviate not only from the Claimants' but-for scenario, but also from the actual post-expropriation production. Again, Mr. Patiño ignores what has actually happened at the Project. This can be demonstrated by comparing Mr. Patiño's ceiling on syncrude production with the actual syncrude production reported in past years, according to PDVSA. Mr. Patiño's approach stands in stark contrast to the Claimants' experts' reliance on the Project's agreed business plans, as confirmed by both the Project's pre- and post-expropriation Proved Reserves figures. Further, Mr. Patiño's production profile for Hamaca suffers from the same fatal flaws as his Petrozuata analysis, to the exception of multilateral wells that have not been used extensively at Hamaca.

406. Mr. Patiño's forecast of expected production is again based on a field decline rate. Dr. Strickland submits that the wrong data were used and that again wells that have an exponential (constant) and hyperbolic (ever-decreasing) rates are conflated. Mr. Patiño uses a total of only 55 wells. He derives a single exponential decline rate of 24% per year, which he then mechanically applies to all of the more than 800 existing and future wells in the field for the period between 2009 and 2037. Mr. Patiño has partially conceded his error and provided a new analysis in his Consolidated Report, adopting a hybrid approach resulting in an inflated decline rate of 18.7%[207]. Mr. Strickland demonstrates that Mr. Patiño's decline rate is contradicted by the Project's actual production history. Mr. Patiño understates expected production at Hamaca by approximately 695 million barrels over its remaining term. Once again, Mr. Patiño attempts to justify his flawed analysis by referring to a few Project documents, which, however, do not reflect long-term production projections for the field.

[205] Consolidated Expert Report on Valuation, 17 November 2016, para. 259.

[206] Patiño, Appendix 84, Field Metrics.

[207] Consolidated Expert Report, 17 October 2016, paras. 136/137.

407. Mr. Patiño also reduces artificially production by adopting unrealistically restrictive criteria for well targets. Mr. Patiño misses viable well targets, thereby depriving the Project of millions more barrels of production. As Mr. Patiño conceded, the post-expropriation Project has actually drilled wells that he failed to include in his production forecast. Dr. Strickland explained that Mr. Patiño's errors collectively serve to understate production at Hamaca by more than 706 million barrels of EHCO. When those errors were corrected, his model yields production volumes consistent with those used by the Claimants' experts.

408. To conclude, on upstream issues, the Claimants submit that (a) their experts rely on the most conservative of the Project's pre-expropriation forecasts, whose achievability is confirmed by the Ministry's, PDVSA's and ConocoPhillips' pre-expropriation Proved Reserves figures; (b) Venezuela's arguments that the productivity of the fields is declining are contradicted by these Proved Reserves figures, which have been going up since the expropriation; and (c) Mr. Patiño's uses an inadequate methodology. When the various errors are corrected, his model produces results for future oil production at Hamaca that are consistent with the Claimants' case.

2. *The Respondent's Position*

409. The Respondent notes that there were some signs at Hamaca leaving doubts about the ability of the field to meet the EHCO requirements at the upgrader during the entire term of the Project. The total number of wells required at the field increased in the business plans from 739 in 2004 to 1047 in 2005 and to 1389 in 2006; and 635 wells were anticipated through 2015, as per the 2006 business plan, as compared with 527 wells for the same period in the 2005 business plan. The 2006 business plan made clear that the Project would run out of well targets in 2031 and that starting then, production would fall off (LECG-122/112).

410. The wells at the Hamaca Project suffered from a high decline rate. When Mr. Figuera took office as President of Petrolera Ameriven in June 2006, he was informed by Mr. Steinar Vaage, a ConocoPhillips secondee and General Manager of the Project that the Project was running with a 2% decline per month, corresponding to a 50 to 60,000 BPD decline of production capacity per year[208]. In sum, on an *ex ante* basis as of 26 June 2007, the Respondent estimates that a total of 1.671 billion barrels of EHCO[209] would have been produced using cold production techniques and those EHCO volumes would have been processed to yield 1.576 billion barrels of CCO.

411. In the *ex ante* valuation at Hamaca, the Respondent assumed that EHCO production would be constrained by the performance at the upgrader, which RAM IV said could be expected to

[208] Figuera Appendix 74.

[209] Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, para. 83.

operate at an OSF of approximately 84%. The Respondent relied on Mr. Figuera in explaining that "despite the growing concerns regarding the production field, there was every expectation that the field could produce sufficient EHCO to feed the upgrader at the reduced OSF expectations reflected in the RAM reports"[210]. The Respondent and its experts also assumed that even so the field was showing signs of having reduced capabilities under cold production. In the *ex post* valuation, the actual performance of the upgrader and the more severe limitations at the field must be taken into account.

412. In this respect, the Respondent relies on Mr. Patiño's study. The expert's conclusions regarding the Huyapari field are as follows: (1) As of 1 January 2009, the Hamaca Project had drilled, completed and connected 325 wells, of which 266 were active and 43 were inactive and required minor repairs, while the other 16 wells were not reparable. The potential production from those 309 wells totaled 169.4 MBD. In addition, there were 32 wells drilled in 2008 but not yet connected to production in early 2009. When they are added, the production capacity program would total 201.2 MBD. (2) Assuming that these 201.2 MBD would have dropped by the end of 2009 to 177.7 MBD in light of the EHCO volumes that were required for the CCO sales achieved during the year, no new wells would have been needed. (3) Thereafter, Mr. Patiño added new wells to assure that the overall production capacity of the field would be around 110% of the EHCO required for (a) CCO sales that were actually achieved in the historical period and (b) CCO sales that would be achieved in the projection period assuming a long-term OSF of 72.85%. After 2024, there were no new well targets, and from then on, production capacity will be insufficient to support the EHCO requirements for CCO production even at an OSF of 72.85%.

413. Mr. Patiño's production capacity program at Hamaca assumes an aggregate of 1,218 wells. This is 171 wells more than the number set forth in the 2005 Business Plan, and 171-197 wells fewer than the number set forth in the draft 2006 business plan (1,389) or in the model on which the Claimants rely (1,415). Mr. Patiño has concluded that over the whole duration of the Project, a total of 1,269 billion barrels of EHCO would be produced using cold production techniques, about 800 million barrels less than the production volumes the Claimants contend will be produced.

3. *The Tribunal's Findings*

414. The Tribunal will address here the production of EHCO independently from the disputed availability of the Hamaca upgrader to treat the required quantities of EHCO. If it was demonstrated that the upgrader cannot deal with EHCO above a certain quantity, this will have to be added to the analysis. At this juncture, the question is focused on the amount of EHCO potentially capable of being extracted from the grounds and sent to the upgrader. The Tribunal notes that apart from

[210] Cf. Respondent's Final Brief on Quantum, para. 120.

repeating Mr. Patiño's and Mr. Figuera's assertions, the Respondent has little to add for its position voicing doubts about Hamaca's field performance. Witness Figuera has nothing to report in this respect except the need to study enhanced oil recovery ("EOR")[211]. Reductions in production ordered by the Ministry in November and December 2006 are not mentioned[212]. As it does in respect of Petrozuata, the Respondent omits to consider the potential of new wells to be added to the site. For instance, when reporting about the message send by Mr. Vaage on 23 October 2006, alerting a 2% decline rate per month, the Respondent[213] omits to add that this information meant "without well additions", as this was stated in the message send on 20 October 2006 by Mr. Steven Haile to Mr. Vaage, who then reported to Mr. Figuera[214]. This information has to be considered together with the Hamaca Board of Director's decision of 18 May 2006 to restart drilling in January 2007[215]. As explained by Mr. Figuera, field decline had as a consequence an increase in the numbers of wells to be drilled[216]. Conversely, if one does not drill wells, a drop-off in production of all wells will follow[217]. Witness Lyons explained that everybody understood that the overarching assumption for both Petrozuata and Hamaca was to keep the upgrader full[218]. Witness Figuera agreed with this requirement[219]; it was the key-assumption[220]. Mr. Patiño failed to include this important objective into his methodology.

415. The Tribunal cannot follow Mr. Patiño's reliance on Mr. Figuera's allegation of a very low OSF factor (72.85%) of the upgrader with the effect that a reduced quantity of EHCO only can be fed into the upgrader and extracted from the fields[221]. Mr. Patiño did not examine from any perspective the actual recovery factor applicable to the Hamaca upgrader.

416. The Tribunal cannot rely either on Mr. Patiño's projections on EHCO supplied from the fields to the extent he assumes that the EHCO volumes required for the CCO sales since 2009

---

[211] Fourth Supplemental Testimony, 7 January 2015, para. 9.

[212] They were a matter for concern at the Meeting of the Board of Directors of 16 November 2006 (C-343, p. 2).

[213] Respondent's Final Brief on Quantum, para. 119.

[214] Figuera Appendix 74.

[215] C-344, Figuera Appendix 25, p. 5. The Board further noted a current output rate of 185,000 BPD EHCO which is close to the design maximum.

[216] Cf. TR-E, 2017 February Hearing, Day 8, p. 2535:1-2536:15.

[217] Witness Lyons, TR-E, 2017 February Hearing, Day 7, p. 1986:19-22.

[218] TR-E, 2017 March Hearing, Day 11, p. 3114:5-7.

[219] TR-E, 2017 March Hearing, Day 11, p. 3115:15-18.

[220] TR-E, 2017 March Hearing, Day 11, p. 3123:15/16.

[221] Consolidated Expert Report, 17 October 2016, paras. 121/122, noting that Mr. Figuera's projected long-term OSF of 72.85% was "based on the historical performance of the upgrader from the time it was commissioned through 2015" (note 199). Mr. Patiño did not investigate whether this was correct.

would have dropped, with the effect that no new wells would have been needed. Indeed, this reduction in the production of EHCO suitable for upgrading to CCO has nothing in common with the designed operation under the Association Agreement, which did not allow for regular production of blended oil. The Tribunal has also difficulties in understanding the Respondent's assumption of a decline on the Hamaca field, when Mr. Patiño's program scheduled a total of 1,218 wells, more than 170 wells less than the 1,389 wells provided as early as in the 2006 business plan[222]. In any event, Mr. Patiño has been called as an expert and not as a witness.

417. In light of the influence of external factors like the OSF or the reduced production of CCO on his own methodology, Mr. Patiño's assumptions cannot assist the Tribunal's decision. Mr. Patiño's decline rate is again based on a small sample of wells that he then corrected in reaction to Dr. Strickland's criticism. He also failed to compare his results with the actual production history of the Project.

418. The Tribunal can draw similar conclusions when considering the downstream production at the Hamaca site. Indeed, the Tribunal has been provided with the invoices for syncrude and blended oil sold between mid 2007 and 2015. The figures resulting from this documentation allow the determination of the quantities of EHCO that must have been available for such purpose. These figures can also be compared to those retained by Mr. Patiño in respect of the field's EHCO production capacity calculated independently from the EHCO production required for the upgrading to CCO only. The results are as follows:

[222] See also the Board's Budget 2007 Presentation, Figuera Appendix 75.

	Mr. Patiño's data						Actual data	
	Active Potential EHCO Production[223]		EHCO Production to Upgrader[224]		CCO for sale[225]		EHCO required for blending[226]	Total EHCO used for upgrading and blending (column 5+8)
	BPD[227]	MMB	BPD	MMB[228]	BPD	MMB	MMB	MMB
2009	188,906[229]	68,950,690	115,385	42,116,000	109,270	39,884,000	6,192,793	48,308,793
2010	165,869	60,542,185	144,706	52,818,000	137,036	50,018,000	0	52,818,000
2011	161,570	58,973,050	137,275	50,105,000	130,000	47,450,000	2,373,606	52,478,606
2012	160,305	58,511,325	72,747	26,625,000	68,891	25,214,000	26,277,368	52,902,368
2013	159,599	58,253,635	136,353	49,769,000	129,127	47,131,000	14,609,112	64,378,112
2014	158,897	57,997,405	153,203	55,919,000	145,084	52,955,000	3,578,852	59,497,852
2015	159,866	58,351,090	148,377	54,158,000	140,513	51,287,000	2,159,519	56,317,519
Sub-total	1,155,012	421,579,380	908,046	331,510,000	859,921	313,939,000	55,191,250	386,701,250
Ave./year	165,002	60,225,626	129,721	47,358,571	122,846	44,848,429	7,884,464	55,242,998
1	2	3	4	5	6	7	8	9

419. From 2016 onwards, when he had no actual figures for CCO available, Mr. Patiño selected the figures for Potential EHCO Production less 10% to determine EHCO Production to Upgrader and from there (x0.947) CCO. Four years are here selected for the purpose of illustration. As a matter of fact, looking at his table, it is only as from 2025 that the results of his decline study are impacting seriously EHCO production at Hamaca, with a further kick-down in 2027.

[223] Patiño Appendix 84, Output.

[224] Cf. Consolidated Expert Report, 17 October 2016, para. 193; Patiño, Appendix 84, Output. These numbers are recalculated from the volumes of CCO mentioned in Mr. Patiño's Consolidated Expert Report, 17 October 2016, para. 193 (with a yield factor of 0.947); the numbers for CCO have been copied for 2009 to 2013 from Mr. Figuera's Third Supplemental Testimony, 15 August 2014, para. 8, based on Appendix 42.

[225] The numbers for 2009-2015 are all copied from Consolidated Expert Report, 17 October 2016, para. 193, where Mr. Patiño explains that he took them from Mr. Figuera's Third Supplemental Testimony of 15 August 2014, table 1 (para. 8), further referring to his Appendix 84. This is correct for the years 2009-2013. However, Mr. Patiño did not observe that Mr. Figuera updated his documentation and submitted a new set of invoices in his Appendix 106, further noting the results in his Fourth Supplemental Testimony of 7 January 2015, table 1, para. 19, from where the numbers on EHCO production have been copied into the Respondent's assessment of Production submitted on 2 June 2017.

[226] These quantities represent 76.67% of blended oil sold as per the information submitted by the Respondent at the March 2017 Hearing, and also contained in the Hamaca Assessment of Production, p. 15.

[227] Mr. Patiño also provides the figures for "Year Start", which are slightly different and less suitable for comparison purposes. Cf. Consolidated Expert Report, 17 October 2016, para. 193; Patiño, Appendix 84, Output.

[228] The numbers have been rounded by Mr. Patiño.

[229] This figure has not been verified by Mr. Patiño. He noted that on 1 January 2009, when he started his production capacity program, this capacity of the field totaled 201.2 MBPD; cf. Consolidated Expert Report, 17 October 2016, para. 124; Expert Report, 18 August 2014, para. 141.

	Active Potential EHCO Production		EHCO Production to Upgrader		CCO for sale	
	BPD	MMB	BPD	MMB	BPD	MMB
2017	159,766	58,314,590	143,432	52,353,000	74,855	49,368,000
2021	159,008	58,037,920	143,432	52,353,000	51,757	49,368,000
2025	130,384	47,590,160	118,473	43,243,000	21,993	40,778,000
2029	53,825	19,646,125	48,907	17,851,000	8,986	16,833,000
Total 2009 to 2037				961,622,000		908,136,000
1	2	3	4	5	6	7

420. As this has been done for Petrozuata, but avoiding lengthy repetitions, the figures resulting from Mr. Patiño's study and the comparison with the figures relating to the production of blended oil require the following comments.

421. Mr. Patiño's volumes for total potential EHCO available on the sites (column 2/3) are always higher than the actual volumes extracted by the wells for the purpose of producing upgraded CCO (column 4/5). This applies for two periods, the one between 2009 and 2015, and the other covering the years 2017 to 2036. Therefore, more EHCO was in fact available than what results from Mr. Patiño's conclusions.

422. When the estimated quantities of EHCO to be used for blending are also considered and added to the volumes used for upgrading, the resulting amounts are interesting from two perspectives: (1) the added amount is always higher than the EHCO supplied for upgrading – thus showing that the EHCO taken into the upgrader is below the EHCO available; and (2), there is a difference of about 38,650 BPD compared to the feeding capacity of the upgrader (190,000 BPD). In order to compensate the difference, an extended drilling activity (corresponding to about 45 wells proceeding at a pace of 800 BPD) would be required. Witness Figuera noted that it was possible to bring up the rate of production per well to an initial production of 1400 to 1600 BPD in the short-term[230].

423. For his definition of the available wells, Mr. Patiño again identifies the characteristics of wells and their potential decline, but he does not proceed to determine the available potential for new wells and new targets. He examined only 17% of the wells operating on site, arguably because so-called "erratic" wells could not be used for such testing[231]. He also chose a requirement of 20-foot thick sands[232] that has been considered as much too rigid[233]. Witness Lyons commented that if one removes anything less than 20 feet, that is a lot of oil left behind, thus eliminating oil that

[230] TR-E, 2017 March Hearing, Day 11, p. 3213:20-3214:11. He added that they had not to care about the long-term, which was Venezuela's task.

[231] Cf. TR-E, 2017 February Hearing, Day 9, p. 2583:4-2586:6, 2747:3-2750:19.

[232] Cf. Patiño, Consolidated Expert Report, 17 October 2016, paras. 62, 112-114.

[233] Strickland, Consolidated Expert Report, 17 October 2016, paras. 99-107.

can be obtained[234]. PDVSA's decision to require 20-feet thick sands was one of the reasons why it has been argued that the Projects were lacking targets[235]. A comparison to the quantities of certified Proved Reserves is missing. It is striking that upon Mr. Patiño's advice, no further well will be drilled as from 2024, although time is left until 2037 to increase EHCO production.

424. At a closer look at the key points of new wells to be drilled, the Tribunal notes that Mr. Patiño projected 754 new wells as from 1 January 2009[236], a number that is in the range of the business projections prior to the expropriation. In this regard, Mr. Patiño stays very close to the original assessment of production. Here again, the Tribunal finds that the assessment of the decline rate of the wells does not include sufficient consideration of the potential of compensation through new wells and increasing work on maintenance and repair (and the associated increase in costs). This item is only marginally addressed in Mr. Patiño's decline analysis[237]. It has also been noted that the decline of wells productivity had as one of its main causes PDVSA's policy to give priority to single lateral wells. For Witness Lyons, this change of strategy had a most negative effect on productivity[238]. This circumstance also renders uncertain Mr. Patiño's study based on wells decline. He explains, indeed, that in respect of multilateral wells, the information on the remaining reserves and the level of depletion per lateral cannot be managed and ascertained with anything close to precision[239]. How is it then possible to determine multilateral wells' decline?

425. Mr. Patiño's approach is not forward looking. In his First Report, he concluded that "with a target potential production capacity of 154.6 MPD, the Huyapari field runs out of targets in 2024"[240]. Assuming this is correct, why did he not suggest searching for targets above 2024? Was this because he was focusing on a "target potential production capacity of 154.6 MBD"? He identified 1,100 wells to be drilled over the life of the field. But he also noted that higher numbers were projected, up to 1,265 producing wells[241]. This number can be found in a ConocoPhillips's Engineering Report of 2007, identifying "new producers" and adding 124 re-drills, providing for a total

[234] TR-E, 2017 March Hearing, Day 11, p. 3211:1-3212:2.

[235] Cf. TR-E, 2017 March Hearing, Day 11, p. 3208:18-21 (Figuera), p. 3211:1-11 (Lyons).

[236] Consolidated Expert Report, 17 October 2016, para. 155.

[237] *Ibidem*, paras. 106/107.

[238] Second Witness Statement, 30 October 2009, paras. 10, 11, 13, 24, 30; Fourth Witness Statement, 16 May 2014, para. 21; Fifth Witness Statement, 13 October 2014, paras. 43-48; TR-E, 2010 Hearing, Day 4, p. 1077:5-1078:17; Day 5, p. 1329:2-1332:13.

[239] Consolidated Expert Report, 17 October 2016, para. 88. Expert Brown objected to Mr. Patiño's assumption (Second Witness Statement, 13 October 2014, paras. 11-13).

[240] Expert Report, 18 August 2014, para. 82. The understanding of Dr. Strickland was that Mr. Patiño took the actual CCO production and then back calculated what the EHCO volumes would have been in order to produce that (TR-E, 2017 February Hearing, Day 9, p. 2762:8-2763:6).

[241] Expert Report, 18 August 2014, para. 49.

number of wells drilled of 1389[242]. Why did he not go this far in light of a production capacity significantly below the Project's target since Mr. Figuera reported that, at the time of migration, ConocoPhillips had projected a capacity of 200 MBD that he considered as having dropped in reality to 186 MBD[243]? The same report listed more than 50 new producers drilled per year still as from 2024 until 2030. It appears to the Tribunal that Mr. Patiño refrained from heading above the number of 154.6 MBD because he was asked

> … to estimate the target potential production of the field based on the consideration presented in the Third Supplemental Figuera Direct Testimony relating to the requirements of the upgrader for the period from January 1, 2009 to December 31, 2013 and Mr. Figuera's estimate of those requirements thereafter. This results in target potential production of approximately 154.6 MBD[244].

426. Another rigid limitation is adopted by Mr. Patiño when he blocks the daily input of EHCO from 2016 until the end of the project at 143,432 BPD and, respectively retains a target of 157,775 BPD which includes a cushion of 10%[245]. These numbers represent a maximum availability. As the Claimants contend, the figure of 143,432 BPD is obtained when applying an OSF of 72.85% from the design capacity of 190,000 BPD. And Mr. Patiño's target of 157,775 BPD is close to 154.6 MBD he quotes as the target taken at the beginning of his study. This observation is in line with Mr. Patiño's introduction to his methodology where he notes that Mr. Figuera's estimate of an OSF of 72.85% was part of the information on which his study was based[246]. Although this is not expressly stated by Mr. Patiño, the review of his opinion suggests that in fact he started his study in taking the hypothesis of a maximum rate of 72.85% OSF and then back-calculated the numbers of wells needed to ensure the required EHCO production that was more than 27% behind design capacity[247].

---

[242] ConocoPhillips, Hamaca RCAT Review, Engineering, 7 May 2007, p. 14/pdf (LECG-111). The same number has been retained in the Board of Directors' Presentation of 12 September 2006 (Figuera Appendix 75). Both documents noted that such drilling was being done until about 2032.

[243] Figuera, Testimony, 20 July 2009, para. 47.

[244] Expert Report, 18 August 2014, para. 67. In fact, the number of 154.6 MPD is not mentioned in the Testimony to which Mr. Patiño refers.

[245] Cf. Patiño, Appendix 84, Output, Upgrader, Field Metrics.

[246] Cf. Patiño, Consolidated Expert Report, 17 October 2016, para. 121, further noting that "OSF is an important consideration in the Hamaca production capacity program" (footnote 199). This OSF was thus used by Mr. Patiño to determine volumes of EHCO projected for the upgrader (para. 122). The Respondent, Final Brief on Quantum, para. 362, confirms that a 72.85% OSF was an assumption on which Mr. Patiño's conclusions were based. It was part of Mr. Patiño's instructions: cf. Expert Report, 18 August 2014, para. 8; TR-E, 2017 February Hearing, Day 9, p. 2665:10-2666:21 (Patiño), p. 2763:7-19 (Strickland).

[247] This percentage can be compared to the 30% that the Respondent estimates as variable portion of operational costs (OPEX) and therefore subject to the variation in EHCO production. Cf. Cost Estimation for Petrozuata, p. 14, 43/44, 48, 52/53, 56/57, and Hamaca, p. 15, 55, 59/60, 64/65, 69/70, 74; Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, paras. 308, 315.

427. The Respondent[248] and its valuation experts[249] adopt the approach and the results of Mr. Patiño's method and report, further including in their presentations on the *ex ante* profile the figures relating to the historical period between 26 June 2007 and the end of 2008[250]. Their conclusions are as follows:

	EHCO Production to Upgrader		CCO for sale	
	BPD	MMB	BPD	MMB
Mr. Figuera				
End 2007	171,629	31,570,422	157,341	28,939,154
2008	158,777	58,112,475	143,253	52,430,724
subtotal	163,061	89,682,897	147,949	81,369,878
Mr. Patiño				
2009-2037		961,622,000[251]		908,136,000[252]
Total		1,051,304,897		989,505,878

428. To conclude, the Respondent's presentation, tied to Mr. Patiño's analysis exclusively focused on decline rates, cannot be retained by the Tribunal. No evidence has been brought before the Tribunal that the production at Hamaca may be limited to quantities significantly lower than the upgrader's design capacity of 190,000 BPD, which corresponds to 69,350,000 MMB. For the period between 2009 and 2015, the figures provided by Mr. Figuera, combined with the EHCO required for the sale of blended oil, confirm this assessment:

[248] Cf. Respondent's Final Brief on Quantum, para. 363; the numbers for 2007 and 2008 are contained in the *ex ante* table, para. 157.

[249] Cf. Brailowsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, para. 259; the numbers for 2007 and 2008 are contained in the *ex ante* table, para. 74.

[250] They were taken from Figuera, Testimony, 20 July 2009, paras. 37-39; TR-E, 2017 March 2016, Day 14, p. 4267:13-15, 4269:13-15, 4271:13-15, 4273:15-19 (Preziosi).

[251] This number became 959,823 in Mr. Patiño's last update under Appendix 89. However, he stated that the difference was negligible and he did not use it in his Consolidated Expert Report, 17 October 2016, paras. 137, 193, nor did he use the figures composing this final amount. The Respondent and its valuation experts have equally not adapted their figures to this last version.

[252] As this has been observed above in relation to Mr. Patiño's numbers on CCO sold between 2009 and 2015 (column 6/7) they were copied from Mr. Figuera' Third Supplemental Statement, 15 August 2014, para. 8, table 1 and the attached Appendix 42, not noting that Mr. Figuera had updated his information in his Fourth Supplemental Testimony, 7 January 2015, para. 19, table 1 and the attached Appendix 106. The Respondent and its valuation experts have relied on Mr. Patiño's numbers, with the effect that their numbers are equally incorrect, and, as a consequence, any subsequent calculation based on them.

2009-2015	EHCO Produced[253]	CCO Produced[254]	EHCO required for CCO invoiced	CCO Invoices[255]	Blended Oil Sold[256]	EHCO required for blending (76.67%)	Total EHCO used for upgrading and blending (column 4 and 7)
2009	45,723,407	39,675,000	42,075,382	39,845,387	8,077,205	6,192,794	48,268,176
2010	53,540,415	49,459,910	52,236,706	49,468,161	0	0	52,236,706
2011	57,523,545	46,783,000	50,105,448	47,449,859	3,095,873	2,373,606	52,479,054
2012	60,903,301	26,782,000	26,625,256	25,214,117	34,208,123	26,227,368	52,852,624
2013	58,430,039	47,602,000	49,768,987	47,131,231	19,054,535	14,609,112	64,378,099
2014	56,553,345	53,190,000	55,919,208	52,955,490	4,667,865	3,578,852	59,498,060
2015	54,927,758	50,946,000	54,157,769	51,287,407	2,816,642	2,159,519	56,317,288
2016							
total	387,601,810	314,437,910	330,888,756	313,351,652	71,920,243	55,141,251	386,030,007
Av. p/year	55,371,687	44,919,701	47,269,822	44,764,522	10,274,320	7,877,322	55,147,144
p/day, BPD	151,703	123,068	122,506	122,643	28,149	21,582	151,088
1	2	3	4	5	6	7	8

429. At this juncture, the figures to be retained are those relating to the EHCO Production Capacity. As mentioned above, the EHCO Production required for CCO Production is noted for informational purposes, because these quantities reflect the operational choices made as from 2009, with the effect that the CCO production was significantly reduced, albeit complemented by the sale of blended oil. None of the numbers for EHCO required for CCO invoiced (column 4) comes close to the quantities fed to the upgrader in the second half of 2007 (31,570,422 MMB) and 2008 (58,112,475 MMB). The drop that occurred in 2009 was therefore based on reasons other than the performance of the upgrader, which was under the control of PDVSA in that period of 2007/2008 and since 2009.

430. To obtain the approximate volumes of EHCO that would have been available when no blending had been permitted, the amount of EHCO required for the production of the relevant corresponding CCO sold has to be added to the EHCO portion of 76.67% in the blended oil[257]. As shown in the table above, the amounts thus reached (column 8) are similar or very close to those

[253] Hamaca Assessment of Production, p. 15; Figuera, 4th Supplemental Testimony, para. 19. Comparable figures, translated into BPD, can be found in the PetroPiar Financial Statement for the years 2009 to 2012 (CLEX-094, p. 210, 259/pdf).

[254] Hamaca Assessment of Production, p. 15; Figuera, Appendix 107. The EHCO required for the production of the quantities of CCO mentioned in the table (column 4) represents numbers lower than those mentioned above under EHCO Produced (column 2). As explained by Mr. Figuera, the Project produced more EHCO than the quantities of EHCO required for the CCO that was produced, according to his figures. The EHCO quantities required for the upgrading to CCO are provided in Mr. Figuera's Fourth Supplemental Testimony, and they can be calculated by dividing the figures of CCO Produced (column 3) by the yield factor of 0.947 (*e.g.* 44,919,701 CCO p/year: 0.947 = 47,433,686 EHCO).

[255] Submitted by Respondent at the 2017 March Hearing, with corrections for years 2009 and 2010 in Annex 7 of Respondent's Answers of 10 July 2017.

[256] Submitted by the Respondent at the 2017 March Hearing; Hamaca Assessment of Production, p. 15, referring to Figuera Appendices 110, 111. Blended oil is composed of 76.67% EHCO and 23.33% diluent, mostly naphtha.

[257] The resulting figures are comparable to the numbers shown by Mr. Figuera as "EHCO Produced". However, they are far below the EHCO Production Capacity reported by Mr. Patiño.

reported as overall "EHCO Production" by Mr. Figuera (column 2). Approximate amounts of 55,200,000 MMB and 151,200 BPD can thus be retained as actual EHCO production figures experienced per year between 2009 and 2015.

431. These amounts increase slightly if one also includes the results of the EHCO production following the 18 months since the expropriation up to the end of 2008, when a total of 89,682,897 MMB has been produced, at an average of 163,061 BPD. In appropriate proportions, this allows the conclusion that in the period since the expropriation until the end of 2015, an actual average amount of 56,000,000 MMB per year has been produced, corresponding to 153,500 BPD.

432. When considering the EHCO production capacity reported by Mr. Patiño, it appears that his figures are above those required to produce the CCO that was actually sold in the years 2009 to 2015[258]. Indeed, he determined numbers for actual potential EHCO production between 57,977,405 MMB (corresponding to 159,866 BPD in 2015) and 68,950,690 MMB (188,906 BPD in 2009), at an average per year of 60,225,626 MMB, which is clearly above the figures quoted above and derived from Mr. Figuera's presentations.

433. Mr. Patiño is not a fact witness providing evidence relating to these figures. However, the Respondent and its valuation experts rely on them. Mr. Figuera's numbers are derived from actual numbers he retrieved when looking at thousands of invoices and reports to the Ministry on EHCO production. The difference is in a range of 4%, which is negligible when considering the many other factors that may have an impact (positive or negative) on the operation of such machinery as an upgrader.

434. The Claimants have not provided annual numbers in their briefs. They were then submitted in their tables on production filed on 20 March 2017 where it was explained that the annual numbers were copied by their experts from the COP-Composite-Economic-Model of 2006 (CEM) (LECG-085), but expressed through more precise numbers in a December 2006 Full Valuation (CLEX-86). The numbers provided in these two documents mostly coincide and support an average production rate of 175,000 BPD (corresponding to a yearly total of 63,875,000 MMB) that is adopted by the Claimants and its experts[259] from the beginning of the post-expropriation period, with the exceptions of turnaround years and without counting blended oil reported as sold during turnaround.

435. The EHCO production of 175,000 BPD initially alleged by the Claimants must be reduced on the basis of the Claimants' own observations. This number was based on an OSF of 92% as it

[258] As a matter of fact, looking at his table, it is only as from 2024 that the results of his decline study are impacting seriously EHCO production at Hamaca.

[259] Consolidated Update Report, 17 November 2016, para. 54.

had been submitted by the Claimants. In light of the 91% OSF adopted later in the proceeding, this figure would become 172,900 BPD and per year 63,108,500 MMB.

436. These quantities are above the actual figures for the period between 2009 and 2015 (55,200,000 MMB, 151,200 BPD), but closer to the actual average amount for the post-expropriation period in the years 2007 to 2015 (56,000,000 MMB, 153,500 BPD). The Tribunal finds no evidence and no convincing argument that would prevent it from retaining these figures for EHCO production at Hamaca if the Association Agreements with the Claimants as partners had remained in place. These are standard figures based on the production capacity of the fields. They will have to be reviewed in light of the production capacity of the upgrader.

437. A further observation must be added: Mr. Patiño notes a sharp decline for Hamaca for the last ten years of the Project's lifetime. Production of EHCO drops from 2025 and three years later it reaches the level of half of the quantities recovered between 2012 and 2024. The Claimants' experts note a drop in 2031[260]. This needs to be further considered below (F).

438. Before that, the next question is to determine whether the available EHCO production is capable of being upgraded.

E. The Processing Capacity of the Upgraders

1. Basic elements

439. According to the constraints accepted in the Association Agreements, the Petrozuata and Hamaca Projects were focused on the production of syncrude (CCO) through a process of upgrading of extra-heavy crude oil (EHCO), to the exclusion of blended oil that is mixed with other oils and not processed through an upgrader. Each Project had one upgrader available for such purpose, each being constructed so as to be able to process a certain maximum quantity of oil per day over the life-time of the Projects. In terms of EHCO, this quantity was, approximately, for Petrozuata 120,000, and for Hamaca 190,000 barrels per day (BPD).

440. EHCO was not delivered to the upgrader in that quality. Given its very high viscosity, it had to be diluted with naphtha in order to be capable of being processed as DCO from the wells through a pipeline to the upgrader. It is not disputed that the respective quantities of such mixed or diluted EHCO were 76.67% undiluted EHCO and 23.33% naphtha. Once arrived at the upgrader, the original EHCO was separated from the naphtha; while the latter was sent back to the fields, the remaining EHCO entered into the upgrading process.

[260] Consolidated Update Report, 17 November 2016, para. 54.

441. In order to take the measure of the quantity of CCO available for sale, the capacity of the upgrader is determined in relation to the quantity of EHCO that can be introduced. The relation between the resulting CCO and the incoming EHCO is determined by a "yield factor" that expresses the quantity of EHCO in relation to the resulting CCO. If this factor is 94.7% or 0.947 (as it is at Hamaca), one barrel of EHCO becomes 0.947 barrel of CCO. Thus, the upgrader of Hamaca was designed to produce 179,600 BPD[261] of CCO, and the upgrader of Petrozuata 104,000 BPD (the yield factor being 0.8621).

442. Given the relation between EHCO and naphtha when mixed together as DCO, the amount of EHCO required to fill up the upgrader at maximum capacity is in a proportion of 76.67% compared to the quantity of DCO provided from the fields. Thus, one barrel of DCO includes 0.7667 barrel of EHCO that yields 0.7261 barrel of CCO at a yield factor of 94.7% (in the case of Hamaca). Therefore, when the upgrader had a capacity of 190,000 BPD of EHCO, it had an initial throughput of 247,800 BPD of DCO (comprising 57,800 BPD of diluent).

443. The maximum capacity for the production of CCO was not defined in real terms but as a designed quantity of EHCO that each upgrader was actually capable of processing. The relation between this designed optimal capacity of CCO and the quantity of CCO actually treated at a certain point of time, or rather over a certain period, is expressed as the "on-stream factor" (OSF). The OSF is a metric that describes the operational efficiency of an upgrader or refinery[262]. It is a measure of actual CCO production against the design rate for CCO production[263]. It reflects the ratio of actual syncrude production (CCO) to the upgrader's design capacity. In fact, the OSF is the key number or percentage that identifies the availability and capacity of treatment of the upgrader, and, ultimately, the resulting quantities of CCO that can possibly be put on the market for sale. Thus, in the case of Hamaca, the OSF is a measure of actual CCO production against the design rate for CCO production of 179,600 BPD. If the upgrader operates at a 91% OSF (as alleged by the Claimants), it can be expected to produce 163,400 BPD of CCO (when receiving 189,600 BPD of EHCO, the yield factor being 0.947). If it runs at a 84.26% OSF or at a 73% OSF (both figures used by the Respondent), it will produce 151,331, respectively 131,100 BPD of CCO. From another perspective but again for the Hamaca upgrader, it can be determined that whereas an OSF of 100% represents 179,600 BPD of CCO, 1% OSF equals 1796 BPD. This also means that a shutdown of the whole upgrader can be measured by days but also by its effects on the OSF. A loss of 1796 BPD

[261] The precise figures for EHCO and CCO capacity of the Hamaca upgrader are uncertain. 179,600 BPD is frequently quoted for CCO and used here. Given the yield factor of 0.947, it would correspond to 189,600 BPD of EHCO (cf. Earnest, Consolidated Expert Report of October 17, 2016, paras. 10, 34, 56). However, the capacity for EHCO is in general given as 190,000 BPD.

[262] Claimants' Final Submission on Quantum, para. 214.

[263] Respondent's Final Brief on Quantum, para. 117, note 229.

equals a 1% OSF reduction. This also explains that the OSF is used as expressing a percentage of time that a refinery is running at its design capacity[264].

444. Sometimes the OSF is used differently, as a factor based on the actual volume of incoming EHCO. It has been noted, indeed, that the OSF can in principle be calculated using either EHCO or CCO production figures[265]. When referring to EHCO, the OSF can be used as expressing the quantity of EHCO delivered to the upgrader. Thus, again in the case of Hamaca, assuming the upgrader operates at an OSF of 91% (as submitted by the Claimants), this can have the meaning that it receives an EHCO production of 172,900 that is then upgraded to 163,736 CCO (using the yield factor of 0.947). In the hypothesis of a 84.26% or a 73% OSF (both figures used by the Respondent), the upgrader will produce 151,331, respectively 131,100 BPD of CCO, which can mean that the supply of EHCO is limited to 159,800 or 138,437 BPD (using again the yield factor of 0.947).

445. In sum, the OSF can be understood in two ways: (1) Either it expresses a decrease in the performance capacities of the upgrader, which produces CCO below its design capacity[266]; or (2) the OSF goes downwards because of a reduction in the EHCO quantities provided from the fields, which has also the effect of lowering CCO volumes below the design capacity. An additional factor for which no evidence on quantities was provided relates to the processing of EHCO delivered to the upgraders of Petrozuata and Hamaca from other sites in the Orinoco fields[267].

2. *The Claimants' Position*

446. The Claimants explain that by its third year of commercial operation in 2004, the Petrozuata upgrader achieved an OSF of roughly 97%, which the Claimants represent as "world-class". The upgrader was still "best in class" until 2007, subject to a cut in EHCO production based on an OPEC limitation applicable in 2007[268]. At that time, the upgrader was operated by the Petrozuata joint venture company. Since the expropriation, it has been operated and maintained exclusively by PDVSA.

---

[264] Cf. Claimants' Memorial on Quantum, 19 May 2014, para.143.

[265] Claimants' Final Submission on Quantum, para. 246, note 391.

[266] This option is expressed by Mr. Earnest when he refers to a loss of operating proficiency at the Hamaca upgrader; cf. Technical Assessment of the Hamaca and Petrozuata Upgrader Performance, 13 October 2014, para. 11; Consolidated Expert Report, 17 October 2016, para. 55. However, this does not, by itself, dispose of the other option that understands the downward trend in OSF performance as a decrease in the volume of EHCO supplied.

[267] Cf. Figuera, Fourth Supplemental Testimony, 7 January 2015, para. 22; Earnest, Consolidated Expert Report, 17 October 2016, para. 66.

[268] Cf. Lyons, Second Supplemental Testimony, 17 May 2010, para. 17; TR-E, 2017 February Hearing, Day 8, p. 2222:15-2224:3, 2233:14-2235:5.

447. The Claimants note that Venezuela alleges that subsequent to the expropriation, PDVSA has encountered operational problems that have reduced the OSF of the Petrozuata upgrader. With one exception, all of these problems are said to have arisen in 2009, long after the Claimants had left Venezuela. Mr. Earnest concludes that the problems on which Venezuela seeks to rely in fact result from PDVSA's own technically poor operation of the upgrader. Such deficiencies cannot be attributed to the Claimants.

448. Venezuela tacitly acknowledges that the reduced performance of the upgrader results, at least in part, from PDVSA's own technical failings. The Claimants have noted that Mr. Figuera attributes upgrader downtime in 2014 and 2015 to "equipment failures and operational errors"[269]. An outage of the delayed coker unit in 2013 occurred "due to operator error" and Mr. Figuera explained that this incident led to a shutdown of the entire upgrader for 45 days, and a consequent 12.3% reduction in the upgrader's OSF for 2013[270]. Mr. Earnest noted that one would not expect a 45-days shutdown for this reason from a competently run organization[271]. The government inspectors reported in 2015 on a serious deterioration of upgrading facilities under PDVSA's management, further noting PDVSA's negligence in its operation of the Orinoco Belt Projects (C-649). PDVSA's deficiencies cannot be properly imputed to the Claimants in the but-for scenario.

449. In respect of the more controversial production capacity of the Hamaca upgrader, the Claimants recall once again that their experts have used a conservative approach. They relied upon the average production figure for Hamaca of 175,000 BPD of EHCO through the terminal years of the contractual period. This level of production implies an OSF for the Hamaca Upgrader of approximately 91%[272]. That OSF figure matches the expectation of all Project participants (including PDVSA) prior to the expropriation, as reflected in the 2005 Hamaca Business Plan (C-341, p. 39) and the 2006 Project's Economic Model (LECG-129). Mr. Earnest concludes that this OSF projection is both reasonable and attainable[273].

450. The RAM ("Reliability, Availability and Maintainability") Studies that have been commissioned by the Project partners predicted an average long-term OSF of between 84% and 93%. The Hamaca Project's Board of Directors evaluated RAM IV and its predecessor reports and concluded that there was a range between 85% and 95% (C-344, 470).

---

[269] Claimants' Final Submission on Quantum, para. 219, referring to a statement of Mr. Figuera before the ICC Arbitral Tribunal.

[270] Third Supplemental Testimony, 15 August 2014, para. 95.

[271] Consolidated Expert Report, 17 October 2016, para. 136.

[272] In the Claimants' Memorial on Quantum, 19 May 2014, para. 144, this production figure implies an OSF of approximately 92%.

[273] Consolidated Expert Report, 17 October 2016, paras. 68-79.

451. Actual upgrader performance in the pre-expropriation period confirms the Project partners conclusion that a long-term OSF of 91% would reasonably be achieved. In 2005, the first full year of commercial operation, a 89% OSF was achieved. In 2006, the OSF averaged over 91% in the first five months of that year[274]. The Project partners accordingly concluded that the upgrader's OSF would continue to rise in later years, as reflected in the Project's successive Business Plans for 2005 and 2006[275]. The 2005 Plan, the last approved by the Hamaca Board[276], prior to the expropriation, shows that the parties expected the OSF to rise to 94.8% in 2007, and remain at rates above 90%, except in turnaround years[277].

452. To insure this result, the Project partners agreed on a detailed capital investment program to enhance and sustain the upgrader's OSF, as reflected in the extracts from the Project's 2007-2008 Capital Expenditure (CAPEX) budget (C-473). Additional expenditures were also contemplated for later years. The Project partners' expectations were reasonable and achievable. Mr. Earnest concluded that the budgeted improvement measures would be expected to yield a long-term OSF of approximately 91% – consistent with the figure adopted in the Project's Economic Model, and the Claimants' damages model.

453. The Claimants note that Venezuela insists that the long-term OSF should be fixed at 72.85% for the remaining 21-year duration of the Project's term. This figure is the latest advanced figure by Mr. Figuera and it is said to be based on PDVSA's own post-expropriation performance at Hamaca. First, there is strong evidence that PDVSA's post-expropriation operation of the Projects has suffered from profound deficiencies that must be imputed to PDVSA, and not to the Claimants in the but-for scenario. Second, Mr. Figuera refers to wrong figures. He reports an OSF of 87.63% for 2005, while the minutes of a Hamaca Board meeting report a year-end OSF of 89% (C-344, C-561, C-614). Third, Venezuela acknowledges that Hamaca has been bypassing the upgrader and selling large quantities of non-upgraded products since 2009, with the effect that the OSF is artificially reduced. In this respect, Venezuela has not shown that the upgrader was not capable of processing those extra volumes. Fourth, Venezuela's proposed long-term OSF of 72.85% is not credible. If correct, it would mean that the upgrader would be off-line nearly 30% of the time, for each of the coming 20 years. For the same period, Venezuela claims that PetroPiar will spend billions of dollars on upgrader turnarounds, maintenance and improvements; such activities had the purpose

[274] The Board of Directors noted in May 2006 a current OSF of 91-92%; C-344, Figuera Appendix 25.

[275] C-341, C-346. Witness Figuera expressed doubts whether the members of the Board understood the challenge they were accepting in the 2006 Plan, but he was not present at the meeting; TR-E, 2017 March Hearing, Day 11, p. 3263:5-14, 3264:14-16, 3265:12-19.

[276] It was said that this Plan had not been formally approved because of some uncertainties in 2007, relating to access to the Reserve Area and the question how long the OPEC cuts will last. Cf. Witness Lyons, TR-E, 2017 February Hearing, Day 7, p. 2008:20-2009:12; 2017 March Hearing, Day 11, p. 3284:1-3287:22.

[277] Cf. also Witness Lyons, TR-E, 2017 March Hearing, Day 11, p. 3265:22-3267:17, 3270:19-3271:15, noting an actual OSF of 91.4% in 2005.

of improving the integrity of the upgrader, which was meant to achieve a higher OSF (C-341, C-346). This is confirmed in a Report of the company on the 2009 turnaround (C-584). In sum, the evidence supports the expectations of the Hamaca partners that a long-term OSF of 91% would be attained. Venezuela's figure of 72.85% is unreliable and unrealistic.

454. The Claimants also object to Venezuela's main argument about the upgrader's deficiencies, which relate to the coker and the vibration levels experienced there. The coker is the part of the upgrader that strips out the heavier elements in the EHCO to yield lighter, more valuable hydrocarbons. The Project partners made the resolution of this problem a priority. A list of corrective measures was set up (C-340, C-346). Mr. Figuera conceded that the coker vibration has not impacted syncrude production at Hamaca. However, Venezuela asserts that the coker vibration poses a "risk of catastrophic failure"[278]. Venezuela's quantum experts adopt a 10% annually compounded probability of upgrader destruction[279]. This reduces the value of the Project by US$ 2 billion (16%). Venezuela offers no technical justification for the 10% figure. No responsible company would continue operating a coker that actually posed a significant risk to the surrounding facility and its workers. Nine years after the expropriation, the problem has not been corrected. Only in 2012 a third party was commissioned to proceed with an assessment of the vibration issue (Chevron Energy Technology Company, CETC). The CETC report[280] proposed a correction to the coker structure with the effect of reducing structural drum vibrations. Mr. Earnest agrees and considers that the measure as proposed will almost certainly resolve the coker vibration issue. Nevertheless, PetroPiar has not completed the implementation of the CETC solution.

455. The economic consequences of the coker issue suggested by Venezuela are absurd. Venezuela claims that PetroPiar will make multi-billion-dollar investments to maintain and improve the upgrader. If this was true, it would be cheaper to replace the coker, at US$ 600 million costs as estimated by Mr. Figuera[281]. The losses incurred during the replacement could be bypassed by selling blended products. At the ICC hearing, the Respondent's experts conceded that the probability of a coker failure has no technical basis.

456. The Respondent alleges other operational problems that, in its view, diminish the efficiency of PetroPiar's operations and should be reflected in the valuation related to the Hamaca Project and its upgrader. None of these problems has any specific impact on the valuation. Thus, naphthenic acid corrosion is a common problem at refineries and can be remedied; the record shows that this was a recognized issue prior to the expropriation and was being resolved (C-379). There is no

[278] Respondent's Rejoinder on Quantum, 7 January 2015, para. 441.

[279] Consolidated Expert Report on Valuation, 17 November 2016, para 261.

[280] Figuera Appendix 72.

[281] Testimony, 20 July 2009, para. 52; Fourth Supplemental Testimony, 7 January 2015, para. 43.

evidence that the alleged quality issues Mr. Figuera raises in respect of EHCO (in particular a lower gravity) have had any effect on the syncrude production; Mr. Earnest explains that Venezuela has vastly overstated the potential impact of EHCO quality on production levels[282]. The alleged collapse of storage tank 12 in 2011 was due to a fire caused by an operator error; that is PDVSA's responsibility, and any resulting losses would have been covered by PetroPiar's insurance policy.

3. *The Respondent's Position*

457. The Respondent recalls that the Hamaca upgrader was commissioned in October 2004, with a design throughput of 247,000 BPD of diluted crude oil (DCO), comprised of approximately 190,000 BPD of EHCO and 57,000 BPD of diluent, and a design output of about 179,600 BPD of CCO. The Project had a term through August 2037. The performance of the upgrader was the main concern at Hamaca. A number of Reliability, Availability and Maintainability ("RAM") studies were made, ultimately showing that the upgrader would have a long-term OSF of about 84%, a figure far below the OSF in excess of 91% plus included in the business plan.

458. The Respondent has established that the CCO production profile for the Hamaca Project used by the Claimants is unfounded because of the serious limitations at the Project's upgrader. The evolution of the OSF at Hamaca indicates that as more information became available, the prospects for the upgrader's long-term performance diminished. The estimated long-term OSF for the Hamaca upgrader dropped at each of the four RAM studies that have been commissioned between 1999 and 2006.

459. RAM I[283] was issued in June 1999 and it concluded, based on the limited information available at the time, that the upgrader could achieve the original target of 93% OSF. RAM II[284] was prepared in 2002 (after the detailed engineering for the upgrader was nearly completed) and noted increased failure frequency of heat exchangers, columns and electrical supply, as well as failures of other components not considered in the RAM I study. The long-term OSF predicted by RAM II was 86.4% and it noted that there was no chance of achieving the targeted 93% availability level. RAM III[285] was issued in November 2003, after the construction of the upgrader was about 60% completed. It was conducted by a different company than RAM II, using however a similar methodology. It concluded that the long-term OSF was 85.37% and also confirmed that there was no chance to achieve the 93% OSF that had been envisaged. RAM IV[286] was undertaken in 2006 after the upgrader had been constructed and had been operating for more than a year. It considered a

---

282 Consolidated Expert Report, 17 October 2016, para. 140.

283 Figuera Appendix 19.

284 Figuera Appendix 20.

285 Figuera Appendix 21.

286 Figuera Appendix 9.

total of 1,354 components and was based on real data from the Petrolera Ameriven databases. It took into account the modifications that have been made during the construction, and was also based on reliability studies that were then made available. RAM IV concluded that the long-term OSF would be 84.38%, but depending upon the nature of further improvements being undertaken, the mean OSF could be increased either to 86.32% or 87.87%. Thus, there was a potential for improvement of 3.4%. RAM IV also explained that upstream failures could have the effect of reducing the OSF down to 82.35%. The range of possible OSF was therefore between a "most representative" 84.38% and a "best practices" of 87.87%.

460. The key conclusions to be drawn from the RAM studies are that (a) the projected OSF steadily declined as more information became available; (b) RAM II, III and IV all indicate no chance of achieving either the 93% long-term OSF target established at the beginning of the Project or the 91% OSF that forms the basis of the Claimants' projections as of 26 June 2007; and (c) the OSFs for the most representative scenario established in RAM IV were 84.38% and 86.32 following metallurgy improvements, reduced to 82.28% and 84.22% when potential upstream failures are taken into account. All of the information and conclusions contained in the RAM reports supports the use of an OSF of 84.26% in the *ex ante* analysis.

461. The Claimants have attempted to diminish the significance of the trend exposed by the RAM reports. Mr. Earnest noted a change in methodology between RAM I and II, and RAM III, which was operated by a different company. For the Respondent, what is clear is that RAM III and RAM IV were performed by the same company. These reports were made within a period of two years and the estimated OSF dropped again. The company that conducted both RAM I and RAM II was the same company that was in charge of the design and construction of the Hamaca upgrader. Thus, the drop in the OSF is even more telling. The only possible conclusion that can be drawn from the RAM reports is that the projected long-term OSF dropped further away from the 93% OSF that was deemed achievable at the outset.

462. The Claimants argued that the Project expected an OSF of 91% or greater, relying on an incomplete version of the minutes of the November 17, 2005 meeting of the Board of Directors, whereas the full version of the minutes (based on the Spanish original) shows that in order to reach such result it "would be a challenge for Ameriven during the next years". Together with this proviso, the Board of Directors permitted the Project to proceed on the basis of a "Best in World" OSF assumption of 91.4% in the 2005 business plan. At the same meeting, the members of the Petrolera Hamaca Operating Committee (OPCOM) recognized that the "best in world scenario" included in the 2005 business plan was a "target". They stated that the actual OSF was 84%.

463. The RAM IV study constitutes the best evidence of what could reasonably be expected from the Hamaca upgrader over the long term. The results of that study – 82.35% until metallurgy improvements could be implemented during the upcoming turnaround in 2009 and 84.26%

thereafter – reflect the reality that the Hamaca upgrader suffered from severe problems. The 91% OSF used by Claimants is nothing more than an aspiration.

464. As a matter of fact, at the Hamaca upgrader, with the exception of 2005, the OSF has never reached even the level predicted by RAM IV, much less the 91% plus OSF used by the Claimants. The OSF from 2005 through 2015, calculated as from either CCO production or CCO sales, result in an average of 73.06%, respectively 72.85% OSF.

465. The Claimants ignore actual performance in their *ex post* valuation and point to a number of "publicly available reports", affirming that the upgrader actually operated at a much higher OSF than reflected in the Respondent's presentation. The OPEC Annual Statistical Bulletin for 2013 reported that the Hamaca upgrader was operating at a higher output rate that what had been expected in 2006. But the figures used in the Bulletin relate to the DCO feed rate, not the EHCO content of the DCO feed. The figures that should be compared to the Claimants' 175,000 BPD of EHCO feed are around 146,000 BPD for 2010 and 141,000 BPD for 2011, as those figures represent the EHCO in the DCO feed when the capacity of the upgrader is 190,800 BPD of DCO and 184,200 BPD of DCO, respectively. The Claimants' reference to the output of the upgrader is a further confusing distortion. The output is CCO, not DCO or EHCO. Given the figures in the OPEC Bulletin, the CCO output was approximately 138,532 BPD in 2010 and 133,741 BPD in 2011.

466. Mr. Lyons referred to a September 2012 article (C-560) where it was stated that the facility will produce 243,000 BPD, compared with 180,000 BPD before the shutdown. These figures relate to the DCO throughput, not EHCO, nor CCO. After the extensive turnaround/PRAC in 2012, the OSF of the upgrader in 2013 was only 71.90%, which was slightly lower than the OSF in 2011 (72.38%).

467. The Respondent notes that the Claimants are wrong when they contend that the purpose of the turnarounds is to achieve a higher OSF over time. That is another of the Claimants' mystifying arguments. The OSF was 72.85% for the eleven-year period from 2005 through 2015. The hopes that turnarounds and other major maintenance activity will improve the OSF, including the enormous expenditures required, have not yielded the sustained results. Among others, the Hamaca Project has engaged in major maintenance and improvement activities post-nationalization. An extensive turnaround in 2009 lasted 65 days and cost US$ 223.7 million; the OSF did not improve. As result of the poor performance of the upgrader notwithstanding the 2009 turnaround, a multidisciplinary team was set up that determined that the processing capacity at the upgrader was limited in 2010 to approximately 145,000 BPD of EHCO. Two plans were then prepared, the PRAC (Restoration Plan for Critical Assets) and the PREM (Restoration Plan for Major Equipment), the latter of which was expected to be carried out annually from 2012 through 2022. The PRAC was carried out in 2012 together with the turnaround, for a total cost of US$ 313.2 million. The first PREM was conducted in 2012, and the second in 2013. But the OSF in 2013 was only about 72%.

468. In sum, the upgrader at the Hamaca Project has never come close to achieving an OSF of 91% on a long-term basis, and even following major maintenance activity, OSF improvements have been short-lived. There is no basis to conclude that in a "but-for" world, the OSF would have been higher than it has been in the historical period. There is nothing that would support the notion that the Hamaca upgrader would have performed at a better OSF had a ConocoPhillips subsidiary remained in the Project.

469. The Respondent further notes that the focus of the RAM studies was on mechanical limitations, but other important factors had an adverse impact on CCO production. RAM IV did not take into account the fact that the EHCO feedstock could vary significantly from what was expected. Shortly before the nationalization, the Hamaca Project realized that the EHCO that was being fed to the upgrader had an approximate API gravity of 7.7 degrees, lower than the 8.6 degree API gravity on which the design feed was based. Lower API gravity correlates to a lower concentration of the lighter petroleum constituents, and also to higher viscosity. This in turn results in (i) a lower percentage of EHCO in the DCO and (ii) a lower inherent EHCO-to-CCO conversion (yield) rate for the EHCO component of the DCO. The result is that less CCO could be produced compared to the design specifications. At the time of nationalization, it was anticipated that the API gravity of the EHCO would drop further over time, to about 7.0 degrees API.

470. The Respondent also notes that the EHCO at Hamaca had a less favorable chemical composition than had been expected, which can have a significant impact on upgrader performance and the quality of the CCO produced, with a corresponding impact on value. For example, metals content poisons the catalysts that are critical to the upgrading process. The increase in the metals caused increasing costs for more frequent catalyst replacements. High metals content tends to reduce the OSF because shutdowns of significant duration are required in order to replace the catalysts.

471. Conradson Carbon Residue (CCR) measures the coke-forming propensities of a crude oil. Higher CCR numbers tend to correlate to reduced volumes of "on-spec" CCO, because less of the lighter, higher value CCO will be produced. Similarly, the Total Acid Number ("TAN") is an important indicator of the corrosive characteristics of the material in question. This causes corrosion problems for the ultimate refining customers and affects the price of the Hamaca CCO. The Claimants and Mr. Earnest have attempted to diminish the impact of the serious corrosion problem, claiming that the Project was properly addressing it through metallurgy upgrades. At a meeting of the Petrolera Hamaca Operating Committee on 8 February 2006, it was noted that an appropriate corrosion inspection could not be conducted at the upgrader prior to the first turnaround, because of the difficulty to locate the corrosion problems. The Claimants referred to the 22 February 2007 meeting of the Hamaca Board of Directors for the proposition that the corrosion problem was "being addressed". In fact, the only thing that had been done was to place a purchase order for heat exchangers with upgraded metallurgy, equipment that had been identified much earlier. What was clear is that there was a substantial risk that both the scope and estimated expenditures would not

improve upgrader performance dramatically. Indeed, the RAM IV OSF following major metallurgy upgrades was projected to be only 84.26%

472. Finally, the sulfur level associated with the feedstock processed at the upgrader is an important issue in determining crude quality and pricing. Sulfur in crude is undesirable because of issues related to corrosion, environmental pollution and human toxicity. Upgrading equipment that comes in contact with sulfur-containing crude oil and petroleum fractions will degrade more quickly, increasing maintenance costs and upgrader unavailability. The sulfur issue can be addressed by means of upgraded metallurgy, but this increases capital costs and has therefore an influence on the price of CCO. Sulfur will be converted to various sulfur oxides during the combustion process, and then becomes an air problem. In sum, the quality of the EHCO feed to the upgrader was identified as a potential problem early in the life of the Hamaca Project.

473. An important item that deserves special attention is the significant risks associated with the vibrations at the coker structure and the impact those risks would have on the prospects of the Hamaca Project. The issue resulted in the formation of a special Vibration Mitigation Project Team in 2005. The vibrations could cause a failure of the coke drum overhead vapor lines that carry the entire content of the high-temperature, highly combustible effluent of the delayed coking reaction process. A leak or failure in these lines could have catastrophic consequences for the continued viability of the upgrader. At a meeting in November 2005, the Project's Operations Committee categorized a "Catastrophic Piping Collapse" as a risk having "high consequences with high probability". Foster Wheeler, a leading U.S. Licensor of delayed coking technology stated that the problem represented "a high potential threat"[287]. A request for funds was made in April 2007, justified by an abnormal level of vibration, representing a high potential threat on personal safety, mechanical integrity of piping and major impact on production. It was noted that there were no industrial standards and guidelines available to follow; therefore, it was very difficult to diagnose the problem and identify the possible solutions. For purposes of its *ex ante* valuation, the Respondent did not lower the OSF or its projections of CCO production as a result of the vibrations, because the impact of the risk was not a current reduction in productivity given the lower OSF achieved by the Project.

474. The Claimants contend that after the nationalization, the Project did nothing to address the risk associated with the vibrations. But the issue has always been recognized as a very complex one. Foster Wheeler described the problem as representing a high potential threat on personal safety. The vibration problem at the coker unit has always been tackled with diligence, but the difficulty lies in its uniqueness and the lack of a known solution. The Vibration Mitigation Project Team created in 2005 was led by the Chevron Energy Technology Company (CETC). The 2013 CETC Report details the efforts that had been made prior to 2012. This Report is the latest in a

[287] Figuera Appendix 71.

series of proposals to remedy a situation for which no known solution exists. The CETC Report states that it is not enough to modify the existing structure only, but that it would be necessary to enforce strict control on feed rates. CETC included in its proposed solution the construction of shear walls following the installation of braces. The 2014 approval to proceed with the most recent solution proposed by CETC was justified by the risk to personal safety and contamination by toxic releases. The Respondent's experts have attempted to quantify the reduction in value. They adopted a 10% cessation risk, reducing the value of Claimants' interest in the Hamaca Project from US$ 315 million to US$ 270 million. The Claimants' experts have not suggested any alternative valuation, denying any solution in arguing that the coker vibration is not presently impacting syncrude production at PetroPiar and thus that there could not be an impact on valuation.

4. The Tribunal's Findings

475. There is no dispute about the fact that the Petrozuata upgrader was designed for a capacity of 120,000 BPD EHCO, resulting in 104,000 BPD CCO (or, more precisely, 103,450 BPD), at a yield factor of 0.8621, and expected to operate at a 97% OSF[288]. The Respondent reported about deficiencies and operational problems occurring during the historical period since Mr. Figuera mentions "equipment failures" and "operational errors". It does not identify the cause of such occurrences nor does it deduct from such events any impact on future production. The evidence before the Tribunal shows that this upgrader was capable of operating at an OSF rate of 97%. It may of course become a characteristic of such a complex structure that in order to keep such high-level throughput and to improve performance, maintenance activities may increase. However, as long as this is effectively done, the effect will be on costs, while the capacity of the upgrader is kept close to the design-level.

476. The Claimants note, however, that the average volume of EHCO supplied to the upgrader was 118,000 BPD[289], corresponding to 43,070,000 MMB per year. When an OSF of 97% (of 120,000 BPD) is applied, the volumes to be retained are lower, *i.e.* for EHCO 116,400 BPD[290] (42,486,000 MMB) and for CCO 100,348 BPD and 36,627,181 MMB. These amounts do not account for the impact of shutdowns required for turnarounds that were scheduled to be done every five years. However, this sequence was subject to technical, economical or other practical incidents and can therefore not be retained for a production reduction (and cost attribution) for precisely each

[288] Witness Figuera noted that it was 95.9% in 2006; TR-E, 2010 Hearing, Day 8, p. 2107:11-2108:7. The 2006 Business Plan mentioned an adjusted reliability rate of 97.5%. The Report made in March 2012 after the 2011 turnaround showed a resulting DCO processing capacity close to the design top; Figuera Appendix 82, p. 39. The Petrozuata Annual Report to the Lenders of 1 April 2007 observed that the upgrader operated at an average uptime of 98% during 2006 (C-376, p. 3/pdf).

[289] This was the quantity of EHCO field production recorded in the Petrozuata 2006 Business Plan (LECG-082).

[290] Claimants' 2017 Post-Hearing Brief, para. 104, notes a number of 116,600, further referring to the CEM, p. 41-43, that does not provide such result.

year. Its impact on the OSF of the actual year is about 8%, resulting in a 1.6% discount to be operated per year for the purpose of calculating the upgrader capacity. Any additional shutdown period is absorbed by the overall OSF. Therefore, in respect of EHCO, the volumes to be noted are 114,480 BPD and 41,785,200 MMB, further yielding to 98,693 BPD and 36,023,021 MMB CCO.

477. The overwhelming part of the documentary record relating to the Hamaca upgrader in the years 2005 to 2007 shows OSF between the upper 80s and the lower 90s. It is not disputed that PDVSA shared all of these statements made prior to the expropriation. The Hamaca Business Plan 2006 for the ten following years reports an average 89.65% OSF for that period (C-346, p. 32), with the highest numbers in 2011 and 2013 (94.53%) and the lowest in 2008 (77.58% – a turnaround year), noting that this was in the range of the RAM IV study (p. 34). Witness Lyons affirmed that in 2006 the Project partner endorsed using 91-92% as the projected long-term OSF of the Hamaca upgrader[291]. In light of the evidence on the record, the Respondent's assertion that the upgrader OSF was not more than 73% since 2005 is unsupported. At least for the early years prior to the expropriation, such allegation is clearly contradicted by the available documentary evidence of that time. The Tribunal further notes that when the Respondent bases his allegation about an average 73% OFS over the years 2005 to 2015 on Mr. Figuera's statement[292], it is clearly contradicted by its own witness noting OSF in the range between 74.90% and 86.25% for the years 2005 to 2008 (with an average of 80.65%) and informing the Tribunal that the OSF in 2005 was 87.6%[293]. In September 2010, PDVSA and its partners reported that they undertook the 2009 turnaround with the aim of restoring a "World-Class Upgrader"[294].

a. The OSF allegedly based on reality

478. The Tribunal finds that the documentation on its record in relation to turnarounds that were in general scheduled every four years shows that one of the main purposes of a turnaround was to ensure maintenance and improve performance of the upgrader, an object which is generally expressed through the OSF measured before and reached at the end of a turnaround. The Parties do not share a common view about whether the turnarounds actually conducted were successful in this

[291] Rebuttal [3rd] Witness Statement, 14 April 2010, para. 5; Fourth Witness Statement, 16 May 2014, para. 28; Fifth Witness Statement, 13 October 2014, para. 19. The design OSF had been set at 91% in the Hamaca's Project's Business Plan (Construction Plan) of 14 October 1998, including biannual shutdown (30 days) and unscheduled outages (18 days annually), p. 222, 234/235. The goal to be achieved was 95% (p. 224, 237). The Minutes of the Operation Committee Meeting of Hamaca of 30 November 2004 assumed an OSF of 88.4% in 2005 and a 91.5% - 92.9% in 2006 forward, except for a 87.3% OSF in turnaround years (C-201); the same numbers are shown in a Board of Directors Presentation on 2 December 2004 (C-202, p. 14/pdf). At the Hamaca Board of Directors' Meeting of 17 November 2005, it was stated that the duty cycle of the upgrader plant for the next 10 years was 91.4% (LECG-130, p. 11/pdf).

[292] Third Supplemental Testimony, 15 August 2014, table 1, para. 8.

[293] TR-E, 2017 February Hearing, Day 8, p. 2386:3-7.

[294] Final Report on PetroPiar's 2009 Turnaround, 21 September 2010, Figuera Appendix 76, p. 3.

respect, but this does not have the effect of removing the object relating to the improvement of the OSF.

479. The Respondent insisted in the final phase of this proceeding on playing down the OSF figures retained in the few documents on turnaround it made available to the Tribunal, stating many times that in reality the OSF figures actually obtained were much lower, around 72 or 73%. Whatever may be the origin of these figures that will be discussed below, the Tribunal notes from the outset that they contradict manifestly the documentation relating to the turnarounds that had been prepared and approved by all participants, including the Respondent's company PDVSA. The Respondent submits that turnarounds have been executed and it claims the costs incurred. If the OSF in reality went down to a level of 73%, the turnaround preceding the measurement of such OSF would have been a complete failure and the costs claimed in this respect without justification. The Respondent does not make any such submission. Furthermore, it did not provide any actual testimony or further evidence of such low level OSF. On the other hand, the Claimants' usual line of argument based on PDVSA's profound deficiencies in operating the upgrader and its poor mismanagement is not more convincing, as it is not supported by actual facts and evidence.

480. Turnarounds serve to improve the OSF[295]. The Respondent reported that after the extensive turnaround/PRAC in 2012, the OSF of the upgrader in 2013 was only 71.90%, which was slightly lower than the OSF in 2011 (72.38%)[296]. This assertion is most confusing in light of the 2012 Report relating to the turnaround, which has had as its main authors the representatives of PDVSA together with those of Chevron. It is hard to believe that under the direction of a high ranking director of PDVSA a Report was written indicating that the purpose of the exercise was to reach "the goal of reliably restoring processing capacity to 247 MPD"[297], further noting that the upgrader was "World-Class"[298], whereas the Venezuelan Government now represents before this Tribunal that this was all wrong and the correct figure had been below 72%.

[295] Witness Lyons, TR-E, 2017 February Hearing, Day 7, p. 2088:16-2089:10.

[296] Respondent's Final Brief on Quantum, para. 346, p. 259.

[297] Figuera Appendix 46, 2012 Final Closing Report on the PRAC, August 2013, p. 5, 113; cf. TR-E, 2017 February Hearing, Day 10, p. 2917/4-16 (Earnest). The volume of 247 MPB was the maximum capacity for DCO. The Respondent argued that this volume was the target, whereas the actual capacity was 190 MPB, which is noted in the PRAC Report; cf. Respondent's Final Brief on Quantum, p. 259; TR-E, 2017 September Hearing, Day 16, p. 4752:6-4753:19 (Preziosi). However, the Respondent did not provide evidence on the result of this PRAC; several important chapters are missing, most probably including the section reporting about the OSF obtained at the end of the restoration. The Tribunal also notes that the number of 190 MPB did not represent a low capacity or OSF of certain duration, but that the upgrader was experiencing a period of particular difficulties that called for appropriate remedy. The Report explains explicitly that the processing capacity of the complex was limited to 190 MPB "due to mechanical damages to some critical equipment" that are then enumerated. It is thus clear that the 190 MPB figure was of a transitory nature.

[298] A quality expressly confirmed by the Respondent's Counsel as being PDVSA's position; TR-E, 2017 September Hearing, Day 16, p. 4602:21-4603:3 (Preziosi).

481. A similar argument has been raised by the Respondent in respect of the 2009 turnaround, which allegedly did not improve the OSF. The evidence expected to be supplied by the Respondent is missing. The Respondent simply refers to a table prepared by Mr. Figuera that does not rely on pertinent facts, as will be explained below. The Report of the 2009 turnaround has been submitted in parts only[299]; the missing sections must have contained the relevant information on the verified actual OSF as this is a key information to be recorded in any such report. When questioned about the OSF resulting from the 2012 PRAC, Counsel of the Respondent admitted that this information was not contained in the parts of the concluding Report submitted to the Tribunal[300], and that it may have been reported in the missing parts that they were not able to produce[301]. They were not able to explain the omission of this information[302].

482. On the same line, when the Respondent affirms that the first PREM was conducted in 2012 and the second in 2013, but that both did not improve the OSF above approximately 72%, no evidence other than a list of numbers provided by Mr. Figuera is submitted. If the matter had been taken seriously, the Respondent would have presented the necessary documentary evidence retained by PDVSA in respect of these PREMs.

483. A further contradiction in the Respondent's submissions appears in relation to the OSF figures retained by the RAM studies that the Respondent presented as being overall reliable, at least during the first phase of this proceeding. The Respondent contradicts itself when it affirms on the one hand that the RAM IV Report supports an OSF of 84.26%, a percentage that is repeated many times in its submissions[303], whereas the same Party then asserts that since 2005 (thus already before RAM IV had been prepared in 2006) through 2015 has been about 73%[304]. The RAM IV study also conflicts totally with the Respondent's allegation that the OSF usually went down after turnarounds. The study's graphs show that the reverse is correct: while the OSF is down in turnaround years, it jumps up to its peek the year thereafter, before steadily declining again when approaching the next turnaround four years later (p. 70, 77).

[299] Figuera Appendix 76, Final Report on PetroPiar's 2009 Turnaround, 21 September 2010.

[300] Figuera Appendix 46.

[301] TR-E, 2017 September Hearing, Day 16, p. 4604:11-4606:18 (Preziosi).

[302] Cf. TR-E, 2017 September Hearing, Day 16, p. 4578:19-4580:20, 4600:3-4601:6, 4604:3-4606:18 (Preziosi). In reply to the Tribunal's query, three annexes have been supplied that relate to the preparation of the turnaround and not to its results.

[303] Cf. Consolidated Brief, paras. 130, 136, 138, 140, 157, 344; Post-Hearing Brief, para. 124 (where the figure is 84.38%). It may be recalled that the RAM IV study has been introduced into this proceeding by Mr. Figuera (Appendix 9) and that it is declared therein that it's "objective is to determine the On Stream Factor (OSF)" (p. 10).

[304] Cf. Consolidated Brief, paras. 139, 305, 345-347, 362; Post-Hearing Brief, paras. 123, 126.

484. The same inconsistency is contained in Mr. Figuera's statements, however with the aggravating element that Mr. Figuera was presented to this Tribunal as a fact witness making statements based on his personal knowledge. The Tribunal noted that in his first Testimony, read together with his Appendix 31, Mr. Figuera fully supported the RAM IV study and concluded that a 84.26% OSF had to be retained as an average[305]. He praised this study as the most relevant of the RAM studies as it was grounded in fact and actual plant data and was designed to derive a realistic OSF upon which the Project could rely[306]. It was only in his Third Supplemental Testimony that Mr. Figuera started testifying that the actual OSF was as from 2009 to be recognized at an average level of 72.85% or 73% OSF. Mr. Figuera did not supply any source other than Mr. Patiño for his statement. He told the Tribunal that he merely reported what he was told on the yearly OSF; his input was limited to calculating the averages[307].

485. The Respondent continued copying Mr. Figuera's figures all along[308], while still maintaining reliance on the results of the RAM IV study. While it may be a party's choice to present alternative factual settings, despite their inconsistency, the same behavior is highly problematic when adopted by a witness pretending to address the Tribunal on the basis of his personal knowledge and to tell the Tribunal the truth. Manifestly, between a 84.26% OSF and a 73% OSF, a choice must be made, because one of these figures must be wrong, if they are not both wrong.

b. The OSF based on EHCO upgraded since 2009

486. Mr. Figuera has demonstrated that the figures of EHCO he used for calculating his new OSF numbers are those related to the production of the CCO in the quantities required since 2009 when the Project started to produce and sell significant volumes of non-upgraded products, thus using the upgrader below its design capacity[309]. The year-by-year OSF he retained can then be

[305] The OSF in normal years would be 87.67%, while it would become 73.50% in 45-days turnaround years and 83.83% when a catalyst change had to be operated. The First Supplemental Testimony supported a mean of 84.26% (para. 81). It further stated that the maximum potential production of CCO would be reduced from the original design of 179.6 MBD over the life of the Project to 176 MBD (para. 82). This would result in a 98% OSF.

[306] Supplemental Testimony, 26 January 2010, paras. 51, 56. Witness Figuera submitted an ABB Study explaining that "a RAM study is an excellent quantative tool that provides the project team with numerically tanked indices and important values for a system of components". (Appendix 23, p. 8/pdf).

[307] TR-E, February 2017 Hearing, Day 8, p. 2384:22-2385:6.

[308] This was done, however, only for the years 2008 to 2015 that were addressed by Mr. Figuera. The Respondent has no supporting evidence for its hypothetical numbers of OSF of around 70% for the years 2005 to 2007. To the contrary, it presented a list of lost opportunity events for the years 2006 and the first half of 2007 that results (when operating appropriate calculations) in OSFs clearly above 80% (R-308).

[309] Cf. Figuera Testimony, 20 July 2009, para. 8; Respondent's Final Brief on Quantum, para. 345; Respondent's 2017 Post-Hearing Brief, para. 126.

compared to the corresponding quantities of CCO that had been produced and sold during the years 2009-2015:

Year	OSF (Based on CCO Production)	CCO Produced[310]	OSF (Based on CCO Sales)	CCO Invoices[311]
2005	87.63		86.25	
2006	74.96		74.90	
2007	82.79		81.68	
2008	78.77		79.76	
2009	60.52	39,675,000	60.84	39,845,387
2010	75.45	49,459,910	76.30	49,468,161
2011	71.37	46,783,000	72.38	47,449,859
2012	40.74	26,782,000	38.36	25,214,117
2013	72.61	47,602,000	71.90	47,131,231
2014	81.14	53,190,000	80.78	52,955,490
2015	77.72	50,948,525	78.24	51,287,407
Average	73		72.85	

The OSF is calculated taking the design capacity of 179,600 BPD CCO, respectively 65,554,000 MMB, as 100% reference. Compared to the actual EHCO and CCO figures reported by Mr. Figuera, the percentages obtained are in the 60 to 70% range. However, this calculation has nothing to do with the efficiency of the upgrader. Mr. Figuera in fact simply compared the decrease in EHCO and resulting CCO production that occurred in the years 2009 to 2015 in relation to the design levels. His figures cannot be understood but as a consequence of the shift in production that occurred in 2009, when upgraded oil production was reduced while blended oil was sold in parallel. These figures do not demonstrate that the upgrader was no longer capable of performing a throughput in the quantities close to the design level. No evidence has been provided to the Tribunal that would address such a deficiency. Mr. Figuera does not address the question.

487. In fact, Mr. Figuera modified the parameters applicable to the OSF metric actually applicable when the Association Agreements were still in force. He compared the quantity of CCO produced in 2009-2015 to the initial design capacity for CCO, although this capacity was no longer actual since the upgrader was operating under the new conditions with quantities of EHCO and CCO volumes far below the maximum of 190,000 BPD EHCO[312]. Of course, the OSF metric compares the CCO produced with the EHCO fed to the upgrader for such purpose. But when such a metric should serve to identify performance of upgrading, it makes sense exclusively when the EHCO volume remains constant: under this condition, one can compare the efficiency of the upgrader at different points in time by reference to the outgoing CCO in relation to the EHCO

[310] Based on Figuera, Appendix 107; Hamaca Assessment of Production, p. 15; Figuera, Fourth Supplemental Testimony, 7 January 2015, table 1, para. 19.

[311] Submitted by Respondent at the March 2017 Hearing, with corrections for years 2009 and 2010 in Annex 7 of Respondent's Answers of July 10, 2017.

[312] Referring to Mr. Figuera's percentages of OSF, Mr. Earnest observed that there has been a marked fall off in the operating proficiencies post-expropriation; TR-E, 2017 February Hearing, Day 10, p. 2921:13-2922:4.

supplied. Therefore, when Mr. Figuera listed a 60% OSF for year 2009, he compared the actual production of CCO with the Project's initial design capacity of 190,000 BPD (69,350,000 MMB), while the proper method would have required comparing with the actual volume of EHCO used to produce such actual quantity of CCO (108,699 BPD; 39,675,000 MMB) the same year.

488. The confusion can also be shown when observing that Mr. Figuera's presentation does not allow the taking into account of the conclusions of the RAM IV study, which he approved, in a range around 85% OSF. This percentage is exclusively based on the capacity of the upgrader to produce CCO when provided with the design EHCO quantity. Mr. Figuera (as well as Mr. Patiño before him) does not take account of this key element in determining the upgrader's capacity. He refers exclusively to a reduced volume of EHCO and calculates its impact on OSF, and then accounts for an out coming quantity of CCO as if the upgrader would work on a 100% OSF.

c. The OSF based on the RAM IV study

489. The Tribunal finds that the RAM I, II and III studies are of very limited relevance in light of the fact that they were prepared when the Hamaca upgrader was not yet in operation. The RAM IV study – dated June 2006 – was made on the basis of full knowledge of the operational terms of the upgrader and covers a period of 20 years. It made extensive reference to the RAM III report that it revised and updated. As RAM IV is the more recent of all four studies and the broadest in scope, its conclusions must prevail over those made previously.

490. The RAM IV study presented <u>three scenarios</u>, each of them being divided into <u>two variants</u> (A and B). <u>Scenario 1A</u> represents "the most representative of the upgrader current condition". It includes the heat exchanger failure rate and the failure rates of all pumps set to 4 years (No. 3.3.2.1). The resulting OSF is a distributed value with a mean of 84.386%, with a standard deviation of 0.63%. <u>Scenario 2A</u> includes improvement opportunities, based on available failure and repair data taken from the best practices considered at world-wide level (No. 3.3.2.2). The resultant OSF is 87.872% with a standard deviation of 0.493%. Compared to Scenario 1A, the OSF for Scenario 2A is higher by 3.486%. <u>Scenario 3A</u> includes a metallurgic change of exchangers (No. 3.3.2.3) and results in an OSF of 86.316%, together with a standard deviation of 0.583%.

491. The Tribunal notes that the OSF used by the authors of the RAM IV study includes consideration of the impact of the maintenance plan of all process units, including turnarounds undertaken every four years (p. 67, 71, 77, 120). The figures resulting for each scenario incorporate the turnarounds in the annual percentages and in the cumulative average at the end of the 20-year period.

492. All of these variants A have been combined with a <u>variant B</u>, representing a correction for upstream failures (described as "external factors" and "support facilities" [page 79]) in an approximate percentage of 2.1% to be added to each of the three scenarios. The Respondent applies this

B-reduction and advocates in its main presentation an OSF of 84.26%, which represents Scenario 3B, including changes in metallurgy, but reducing the OSF in light of upstream failures counting for approximately 2.1%.

493. The Tribunal finds that this latter reduction is not correct when considering the OSF as strictly related to the upgrader's production capacity. As the OSF serves to determine the capacity of producing CCO compared to the quantity of EHCO separated from DCO, such a factor based on failures occurring in the supply chain of DCO delivered at the upgrader (pipelines, wells) must not be included. The OSF has always be defined and understood as a metric related specifically to the operational efficiency of the upgrader[313]. The RAM IV study further noted that these external factors were not under Ameriven personnel control (p. 96)[314]. Therefore, it cannot be suddenly used as a factor for upstream production. In any event, the Respondent does not explain its choice in any way.

494. When this upstream portion of 2.1% is set aside, the Respondent's choice is Scenario 3A, resulting in an OSF of 86.316% and a standard deviation of 0.583%. This choice does not include any improvement based on "best-practice" standards (Scenario 2A). The Respondent does not supply reasons for this choice. If Scenario 2A is added (+3.486%) to the base scenario, the resulting OSF becomes 87.872%, with a deviation margin of approximately 1%.

495. The Respondent has not argued directly that such improvements had not been made. It simply relied on Mr. Figuera's assertions that the OSF of the Hamaca upgrader was in constant decline, even after turnarounds. It notes that an OSF of 84.26% demonstrates that the upgrader suffered from severe problems, to such extent that the 91% OSF the Claimants use appears nothing more than an aspiration[315], but it also notes that this OSF corresponds to the "most representative" scenario, without improvements[316]. The question whether such improvements were actually decided and implemented has not been addressed explicitly by the Respondent.

496. This issue has to be examined more closely. The Hamaca Board of Directors meeting of 18 May 2006 recorded a current OSF of 91-92%[317]. The Hamaca Economic Model of 30 October 2006 shows an OSF over 93% for the whole duration of the Project (LECG-129). The Hamaca 2005 General Business Plan had as one of its premises an average OSF of 91% (C-341, p. 39).

[313] This was also Mr. Figuera's understanding in his first Testimony (20 July 2009), note 39: "The RAM IV Study also relates only to the upgrader, and does not address issues that could impact production at the oil field or the pipeline."

[314] Mr. Earnest shared this view; TR-E, 2017 February Hearing, Day 10, p. 2893:10-2894:6.

[315] Respondent's Final Brief on Quantum, para. 140.

[316] *Ibidem*, para. 136.

[317] Figuera Appendix 25, p. 3.

When considering the conclusions of the RAM IV Report, the Board of Directors submitting the Petrolera Ameriven 2006 business plan noted an OSF of 93.2% in 2009 under normal operations and OSFs over 91% as from 2009 except in turnaround years[318]. A number of improvements were made in the budget[319]; according to Mr. Earnest, they had the effect of raising the OSF to 92.93%[320]. This expert assumed that all the items that had been budgeted were ultimately made[321]. Witness Lyons explained that the list of corrective actions had been translated in the budgets for 2007 and 2008[322]. The long-term planning was based on a 91.4% OSF, while the actual operation was better than this[323].

497. When asked by the Tribunal in question 12, submitted on 8 June 2017 to explain whether the best practice improvements (RAM IV, Scenario 2) and the metallurgic changes (Scenario 3) had been made, the Respondent noted in its Answer of 10 July 2017 that the metallurgic changes were made during the 2009 turnaround and subsequent maintenance, with the effect that Scenario 3B would prevail, corresponding to an OSF of 84.26%. The Respondent further added that "any possible improvements targeted to improve the OSF based on international practices have in fact been implemented". It noted that even if "best practices" reference figures were available[324], the maximum OSF estimated and after accounting for upstream failures (Scenario 2B) would be 85.78% (p. 20). This last figure does not include the metallurgic improvements that were part of Scenario 3. Nonetheless, the Respondent did not affirm that such improvements had not been made. If they are taken into account, the resulting OSF would become higher than 85.78% (*i.e.* +1.93% under variant A).

498. RAM IV identifies the OSF portion that each scenario 2 and 3 would add to the basic level represented by scenario 1. The study shows that when considering the lists of equipment items to

[318] Cf. LECG-112, C-346, p. 15, 18, 31.

[319] Witness Lyons, Rebuttal [3rd] Witness Statement, 14 April 2010, paras 22/23.

[320] Earnest, Consolidated Expert Report, 17 October 2016, table 2, paras. 71, 73; TR-E, 2017 February Hearing, Day 10, p. 2900:1-2904:22.

[321] TR-E, 2017 February Hearing, Day 10, p. 2963:18-2964:9. Cf. further the Petrolera Ameriven Operating Committee Presentation of 26 January 2007 (C-378); Petrolera Hamaca Board of Directors Presentation of 22 February 2007 (C-379); Hamaca Tender Committee Presentation of 19 September 2006 (C-472); CAPEX Projects Summary 2007-2009 (C-473).

[322] Second Witness Statement, 30 October 2009, para. 41; TR-E, 2017 February Hearing, Day 8, p. 2231:12-19.

[323] Lyons, Rebuttal [3rd] Witness Statement, 14 April 2010, paras. 21, 25,29; TR-E, 2017 February Hearing, Day 7, p. 2066:10-2067:18, 2068:18-2069:6, 2077:17-2081:22; 2017 March Hearing, Day 11, p. 3262:13-18; 2010 Hearing, Day 5, p. 1250:10-1253:8, 1379:9-1380:12.

[324] The RAM IV study explains that its Best Practices data came from the documents supplied by Ameriven, and for the equipment with no data of Best Practices, the most optimistic available data was taken from the existent databases (p. 58). This shows that the relevant information was available to the Project's governance.

be subject for improvement, there appears a very small overlap between scenario 2 and 3[325]. Scenario 3 seems to address metallurgic items exclusively, while scenario 2 has a much broader scope and may not include metallurgic improvements already covered by scenario 3. Therefore, one reading of the RAM IV study would be to combine Scenario 3A (86.316%) and 2A (improvement potential of 3.486%), resulting in an OSF of 89.8%. However, there is another, possible reading[326]. The Study states that when the projected Scenario 3A is chosen (86.316%), including a metallurgic change of exchangers, the OSF is increased by about 2% (1.93%); it also notes that this reduces the improvement opportunities margin to 1.556% (p. 96). The Tribunal considers that since each scenario is adjusted by a deviation margin and given the improvement capacities of the Project's upgrader, which includes a metallurgic change of exchangers, an OSF of 88.5% will be retained.

d. The impact of shutdowns and maintenance

499. The Tribunal acknowledges that a number of reports, minutes, contracts and invoices show that the coker caused a serious concern because of the vibration of its structure. The Tribunal is troubled, however, by unsupported assertions such as the Respondent's experts claiming a risk of explosion of 10% that increases in the same percentage year by year, as if a responsible operator of an upgrader would let such coker running, despite the manifest life-threatening risk for its workers and the ongoing operation of the upgrader as a whole.

500. The Tribunal notes at this juncture that the risk of failure of the coker did not materialize in a reduction of the upgrader's throughput. The issue is not part of a submission for a reduced capacity of production of the upgrader. It is a factor of costs to be considered as a potential for reduced cash flow and will have to be dealt with in this connection below.

501. Any other operational handicap highlighted by the Respondent does not appear as extraordinary to the effect that it would impact on the valuation above the usual operational elements and the required maintenance, including turnarounds. This is the case of acid corrosion that is mentioned as part of the items to be revisited during turnarounds[327].

502. The EHCO extracted at the fields and transferred to the upgrader apparently was not of identical quality in regular terms. Lower than the expected gravity was observed. However, the

[325] Cf. RAM IV, p. 130 and 133. On both lists one can find two elements of the coker unit, and two items of the flare system. All other items appear on one list only.

[326] Cf. Witness Figuera, Supplemental Testimony, 26 January 2010, para. 58, p. 45; Respondent's Counsel Preziosi, TR-E, 2017 September Hearing, Day 16, p. 4768:15-4769:13.

[327] Cf., for instance, Minutes of Hamaca Operations Committee Meeting of 8 February 2006, p. 8 (Figuera, Appendix 50); Hamaca Board of Directors Presentation of 22 February 2007, p. 7/pdf (C-379); Witness Lyons, TR-E, 2017 February Hearing, Day 8, p. 2232:19-2233:11.

Respondent does not demonstrate that this had any effect on the syncrude production. It did not observe that the contractual minimum was 8° API[328], close to the actual 7.7° and below the alleged 8.6° design API. It also omitted to note that the technical report on which it relied[329] explains that a lower API degree of EHCO can be compensated by a higher API of the diluent naphtha and that such a measure had the effect of increasing the production level of EHCO at 2.9 MBD and of CCO at 2.7 MBD[330]. Witness Figuera equally omitted to consider this information[331]. One effect of under graded API may be on price. However, the Tribunal notes that it has not been provided with evidence on an alleged impact of variations in API gravity on the CCO production through the upgrader. The differences in API gravity that appear on the Hamaca invoices from 2009 through 2015 relate to the down-stream part of the Project and their impact on prices cannot be recognized. Moreover, the Respondent does not draw any specific conclusion from such occurrences, either in terms of production volumes or as a loss of revenue. The Tribunal also observes that the Respondent confuses API degree of the EHCO from upstream with the API degree of the syncrude (mentioned on the invoices), which are different[332]. In terms of valuation, the issue is moot.

503. The collapse of storage tank 12 is not an issue, and has not been presented by the Respondent as an issue impacting on the efficient production of the upgrader. The operator has dealt with the problem (one solution providing for by-pass), and the matter remaining in dispute in this respect relates to costs and not to the valuation of the capacity for production of the upgrader.

504. The Respondent complained about a number of factors having allegedly an impact on the performance of the upgrader and the quality of the CCO produced, like a less favorable chemical composition of the EHCO and corrosion problems. However, the Respondent does not take these into account when assessing the valuation and production capacity of the upgrader. The problems that are mentioned may have a potential impact on the performance of the upgrader and are to be treated through appropriate maintenance; this has been done, as this can be easily observed when consulting the reports made on turnarounds. The costs have thus been absorbed by the budget allocation for turnarounds and other maintenance activities. The Respondent does not allege specific shutdowns caused by such problems, nor did it show that such shutdowns would have had the effect

[328] Annex A to Exhibit K of the Hamaca Association Agreement (C-22, p. 786/pdf).

[329] Respondent's Final Brief on Quantum, footnote 283.

[330] Petrolera Ameriven Technical Note (Processing of Extra Heavy Crude Oil (EHCO) of Low API Gravity, 11 July 2007 (C-405), p. 9, 15.

[331] Cf. Supplemental Testimony, 26 January 2010, paras. 66-72; Third Supplemental Testimony, 15 August 2014, para. 22.

[332] Cf. the Respondent's Answers of 10 July 2017 and its Reply of 31 July 2017 (Question 10), where numerous documents containing piles of invoices are mentioned (like Figuera Appendices 42, 104), without any indication where excessively low API could be found. The Claimants noted correctly in their comments of 31 July 2017 (para. 33) that the Respondent had not cited evidence of a causal connection between alleged EHCO quality issues and the supposed decline in syncrude quality (and thus the price).

of reducing the OSF below 90%. The same is true in respect of the sulfur issue that the Respondent admittedly considers as to be addressed by means of upgraded metallurgy, thus increasing costs. Metallurgy has been a permanent item on turnarounds and has been highlighted already by the RAM studies as a maintenance issue typical for upgraders[333].

505. Mr. Figuera provided the Respondent inspiration for a much broader allegation, extending the effects of all sorts of maintenance activities during the upgrader's shutdowns for a yearly duration of several months. Mr. Figuera affirmed that the upgrader had suffered shutdowns of an average duration of 85 days each year from 2009 to 2012[334]. He did not refer to any personal experience in this respect, nor did he present any other evidence[335]. The Respondent reproduced Mr. Figuera's testimony and, when questioned, supplied it with a long list of documents filed by Mr. Figuera that he did not use himself in support of his assertion[336]. This was for good reasons, because none of the documents cited by the Respondent offers evidence for shutdowns of such duration as alleged. Out of 22 documents, only two of them mention the occurrence of shutdowns of short duration[337]. The Respondent did not compare these documents and its allegation with the results of the RAM IV study that had as one of its specific objectives to "predict most of the scenarios of shutdowns" (p. 11, 14).

506. For Mr. Figuera's statement on the long duration of shutdowns, his Appendix 73 serves as the sole and exclusive basis of evidence. It has to be remembered that the designed maximum CCO capacity was 179,600 BPD, corresponding to 100% OSF. Therefore, 1% OSF is 1796 BPD. The same way, negative OSF can be calculated: a loss of 1796 BPD equals a loss of 1% OSF. This defines the unavailability of the upgrader in terms of OSF (column 5) and the corresponding percentage of availability (column 6).

[333] Cf. Witness Lyons, Fifth Witness Statement, 13 October 2014, paras. 34-36.

[334] Figuera, Third Supplemental Testimony, 15 August 2014, para. 11.

[335] The Development Production Supply Agreement (Exhibit K to the Hamaca Association Agreement) provided, among others, that any participant shall promptly give to the other a notice of any unscheduled shutdown (Art. 5.3). No such notice has been included into the Tribunal's record.

[336] Respondent's Reply of 31 July 2017, Question 13, p. 31/32.

[337] The overwhelming majority of the documents referred to do not contain any indication relating to a shutdown (cf. Figuera Appendix Nos 24, 33, 46, 49, 53-55, 58, 60, 62, 65-67, 119, 120, 123). Appendix No. 25 expressly stated that an "unplanned shutdown has been avoided" (p. 5-6). In one document, a shutdown of short duration was noted (Appendix No. 32), while in another report it was mentioned that a shutdown occurred three times, however without indicating its duration (Appendix No. 131), while in another Appendix it was observed that reparation on the same item (tank 12) was made when it was out of service (Appendix No. 61).

	Mr. Figuera's additions[338]	MBls per day (divide by 365)	BPD	Unavailability (divide by 1796) (= loss of OSF)	OSF
2008	7,997	21.910	21.910	12.199	87.801
2009	2,755	7.548	7.548	4.203	95.797
2010	5,148	14.104	14.104	7.853	92.147
2011	8,642	23.677	23.677	13.183	86.817
2012	11,333	31.049	31.049	17.288	82.712
2013	6,505	17.822	17.822	9.923	90.077
Average					89.225
1	2	3	4	5	6

507. The resulting average OSF of 89.2% has nothing in common with the average of the 73% determined by Mr. Figuera and emphasized by the Respondent. The 89,2% OSF confirms that the actual range of OSF based on production was around 90%.

508. Therefore, all of Mr. Figuera's OSF indications as from 2009 and the numbers copied from him by the Respondent and its valuation experts are not correct. The Respondent's alternative position relying on the RAM IV study is more convincing, however only when adding the correction relating to best practice improvements that have been implemented and after subtraction of 2.1% related to upstream failure items that are not caused by the upgrader, together with an adjustment based on the deviation factors, resulting in an OSF of 88.5%.

509. The Tribunal noted that each scenario presented in the RAM IV study included consideration of the impact of turnarounds and other maintenance causing shutdowns on the OSF. The OSF figures retained by the Study include those shutdowns in the annual accounts and in the cumulative average OSF determined at the end of a 20-year period. Therefore, the OSF retained as a result of the combination of Scenario 2A and 3A is 88.5 %. The Tribunal adopts this OSF and the resulting quantities of 168,150 BPD and 61,374,750 MMB EHCO that yield to 159,238 BPD and 58,121,888 MMB CCO.

e. The pre-expropriation OSF of 91%

510. The Tribunal has mentioned above an impressive number of documents, mostly prior to the expropriation, that allow the conclusion that the Claimants' focus on an 91% OSF finds strong support in the Project's history[339].

[338] Third Supplemental Testimony, para. 47.

[339] Cf. also ConocoPhillips, Hamaca RCAT Review, Engineering, 7 May 2007, p. 31/pdf, projecting full capacity rate for Hamaca's upgrader until 2033.

511. However, the 91% OSF figure has the handicap of having never been tested as such. The Claimants further rely on the opinion of their valuation experts, who have limited experience in the technicalities of oil upgraders and did not refer to actual measuring. The Tribunal also notes that the Claimants adopt correctly a significantly lower OSF in turnaround years and they further reduce the OSF when the catalyst has to be changed[340].

512. Therefore, the Claimants' figure of 91% OSF (with the reductions mentioned) includes more hypothetical elements than the 88.5% OSF resulting in the Tribunal's view from the correct understanding of the RAM IV study, which includes the impact of turnarounds. The Tribunal has not been provided with any evidence that would allow an assumption that the Project, when conducted under the operational parameters based on the Association Agreement, would have deviated significantly from such an OSF, when it were to be adjusted and may be corrected within a reasonable timeframe through professional and appropriate improvements by way of maintenance and increased quality of equipment.

F. <u>Overall Production and Sales at Petrozuata and Hamaca</u>

513. In conclusion, the Tribunal assembles the information for the assessment of the quantities of EHCO and CCO production, either in actual terms or on the basis of the evidence that allows determining production as it would have occurred if the Association Agreements had remained in place. The first period with actual results covers mid-2007 and 2008. The Tribunal is of the view that the quantities of EHCO produced at that time on the fields and supplied to the upgrader, together with the outgoing CCO, confirm basically the efficiency of the upgraders when operated under the control of PDVSA but before the cut in supply adopted for the years starting in 2009. As the Respondent confirms, this relatively short period under PDVSA' direction comes close to what the Claimants experienced prior to the expropriation:

> In the post-nationalization period pre-dating January 1, 2009, the mixed companies produced and sold only CCO and, accordingly, the actual performance in that period represents what the performance would most likely have been had the associations remained in place[341].

514. As from 2009, due to the change in the operational mode of the Projects and the production and sale of blended oil, the actual figures are not representative for the production and sales that would have been made had the Claimants remained partners in the Projects. Therefore, as from that date, the relevant figures are collected on the basis of the available quantities of EHCO for both

---

[340] In fact, the Claimants demonstrative provided at the 19-21 September 2007 Hearing ("Claimants' Position on CCO Production and OSF at Hamaca In But-For Scenario") confirms this assessment. TR-E, 2017 September Hearing, Day 16, p. 4737:18-4738:8 (King).

[341] Respondent's Final Brief on Quantum, para. 317.

the production of CCO and blended oil, combined with the production parameters of the upgraders. This applies to the historical period between 2009 and 2016 and for the following years. As this has been explained above, the Tribunal applies to the mean OSF retained for the Petrozuata Project a reduction of an average 1.6% corresponding to the impact of turnarounds undertaken approximately every five years (resulting in 95,4% OSF).

515. In this respect, the Tribunal retains, for Petrozuata, a EHCO production capacity of 41,785,200 MMB per year (equal to 114,480 BPD), and for Hamaca 61,374,750 MMB (168,150 BPD). In combination with the respective yields for Petrozuata (0.8621) and Hamaca (0.947), the resulting quantities of CCO are 36,023,021 MMB (98,693 BPD) for Petrozuata and 58,121,888 MMB (159,238 BPD) for Hamaca. The Tribunal further finds that these amounts also apply for the following years of the future lifetime of the Projects, as long as they would have been operating under the conditions provided for in the Association Agreements.

516. As this has been explained above (part B), the volume of CCO production must be slightly adjusted in order to take account of the volume of EHCO by-pass during turnarounds. Such volume represents a loss of upgraded oil and revenue for these periods of limited duration. The quantities of EHCO to be considered are relatively small, in an extent that does not allow useful results if the volumes involved would be attributed to years when turnarounds took place, assuming that these years could be determined with some precision – which is not the case. Therefore, the Tribunal retains the total amount of EHCO by-pass of 9,044,000 MMB for Petrozuata and of 20,880,000 MMB for Hamaca over the life-time of the respective Projects. For the purpose of adequate accounting of the values involved, these figures are to be taken into account in their proportion of 30% compared to the price of CCO counted at 100%, leaving 2,713,200 MMB for Petrozuata and 6,264,000 MMB for Hamaca. Instead of distributing these numbers over years when turnarounds took place, the Tribunal retains an average over the lifetime of each of the Projects since 2009, resulting in 193,800 MMB for Petrozuata and 261,000 MMB for Hamaca. The Tribunal also recognizes a small margin of discretion that allows rounding and retains a total production of heavy syncrude per year for Petrozuata of 36,200,000 MMB CCO, and 58,400,000 MMB CCO for Hamaca.

517. In relation to the period approaching the term of the lifetime of each of the Projects, the Tribunal observes that the Parties are not as explicit as they are in respect of many other items. For Petrozuata, the Claimants stated claims for production until the end of the Association Agreement's term in 2036[342], but they also accept, based on their experts' assessment[343] and on Witness

[342] Claimants' Final Submission on Quantum, paras. 179, 180, 224. No blended oil was produced during that period; cf. Figuera, Fourth Supplemental Testimony, 7 January 2015, para. 21, footnote 46.

[343] Cf. Claimants' Tables on Production at Petrozuata submitted on 20 March 2017; Abdala/Spiller, Consolidated Update Report, 17 November 2016, para. 50; TR-E, 2017 March Hearing, Day 12, p. 3455:13-3456:18 (Abdala). See also

Lyons[344], that the productivity of the field will dramatically decline at the end of year 2023. This turndown point also appears in the models that have been used[345]. The Tribunal finds therefore that operation at design capacity will no longer be the Project's target beyond 2023. For Hamaca, the Claimants also include in their claim the terminal year 2037[346]. The drop-off term is closer to the end of the lifetime of the Project, when in 2034 the curve of production turns definitively downwards[347].

518. After the drop-off years 2024 and 2034 respectively, production may still continue, albeit with much lower quantities. The available volumes until the end of the concessions' lifetime are difficult to ascertain on a reasonably certain basis. The numbers provided by the experts are not supported by testimony or actual documentary evidence. Further, the ratio between the revenue resulting from such end-term production and the costs that will be still involved at a more or less similar level than before will run out of proportion at a certain point in time for reasons of economics and financing. Drilling will no longer be an option when the costs cannot be recovered[348]. The Tribunal finds that for Hamaca, the drop in productivity was substantial in 2034, close to the contractual end of the Project. However, this is not a sufficient reason to stop the accounting completely while the production is still above 50% of the average determined by the Tribunal (61,374,750 MMB). The Tribunal retains therefore for Hamaca, keeping the calculation simple, the amounts of 51,000,000 (2034), 47,000,000 (2035) and 43,000,000 (2036). For Petrozuata, the main cliff occurs as early as in 2024, more than 10 years before the definitive end; during this residual period, the production as projected is not negligible[349]. The Tribunal finds that this situation has also to be adequately considered and valued. It thus concludes that the production in the years 2024, 2025 and 2026 has to be included in the account for Petrozuata, as the respective amounts of EHCO are still above 50% of the average determined by the Tribunal (41,785,200

ConocoPhillips RCAT group, Building Production Capacity Reserves, October 2006 (C-474). The Petrozuata Annual Management Report to Lenders of 1 April 2007 (C-376) noted under "Further Risks Associated with Long-Range Plan Key Assumptions" that "with access to the Reserve Area, the production falls below 120,000 BPCD in 2023".

[344] Rebuttal [3rd] Witness Statement, 14 April 2010, paras. 3, 12; TR-E, 2010 Hearing, Day 4, p. 1102:12-20. At the February 2017 Hearing, Witness Lyons noted that decline was expected in the 2006 Business Plan in year 2027 (TR-E, Day 8, p. 2209:12-21), but he also accepted a reference to 2023 (TR-E, Day 7, p. 1955:5-9). Witness Figuera also referred to year 2023 (Supplemental Testimony, 26 January 2010, para. 30).

[345] Cf. Composite Economic Model (CEM; LECG-085), p. 15, 42/pdf.

[346] Claimants' Final Submission on Quantum, paras. 226, 271, 309.

[347] The Claimants' experts (Consolidated Update Report, 17 November 2016, para. 54) note a decline starting in 2031. The 2006 Business Plan noted a decline in 2032, when well targets will run out in 2031 (C-346, LECG-112, p. 20); cf. Witness Lyons, TR-E, 2017 February Hearing, Day 7, p. 2012:20-2013:17. The Tribunal observes that while it is correct that the curve shows downwards from that year, the clear trend is manifest as from 2034 only. Cf. Claimants' Tables on Production at Hamaca, filed on 20 March 2017; ConocoPhillips, Hamaca RCAT Review, Engineering, 7 May 2007, p. 15, 27, 31/pdf.

[348] Cf. Witness Lyons, TR-E, 2017 February Hearing, Day 7, p. 1905:20-1907:10.

[349] The pertinent figures are provided by the CEM, p. 42/pdf, and the Claimants' Tables submitted on 20 March 2017.

MMB). The Tribunal retains therefore the amounts of 26,600,000, 22,100,000, and 19,000,000 MMB CCO for the years 2024, 2025 and 2026, respectively.

519. On the basis of the reasons provided above, the overall figures for production at Petrozuata and Hamaca are as follows:

	Capacity	EHCO to upgrader		CCO		Total CCO	
		BPD	MMB	BPD	MMB	years	MMB
Petrozuata 2007/2008			60,929,932		51,269,497	1½	51,269,497
Petrozuata 2009-2023	Design	120,000	43,800,000	103,450	37,759,980		
	Tribunal	114,480	41,785,200	98,693	36,200,000	14	506,800,000
2024-2026						3	67,700,000
Hamaca 2007/2008			89,682,897		81,369,878	1½	81,369,878
Hamaca 2009-2033	Design	190,000	69,350,000	179,600	65,554,000		
	Tribunal	168,150	61,374,750	159,238	58,400,000	24	1,401,160,000
2034-2036							141,000,000
Total							2,249,229,375
1	2	3	4	5	6	7	8

G. Corocoro

520. It has been mentioned above that Corocoro deserves a special section, due to the specificities of its nature and operation, different from Petrozuata and Hamaca. Corocoro did not produce upgraded oil. It also relied on an Association Agreement, concluded on 10 July 1996, but this document did not include compensation provisions (C-23, R-29). This Project is also different in the sense that Conoco Venezuela B.V. was designated as the operator for the whole 39-year duration of the Project[350]. Conoco Venezuela B.V. later had its ownership interest transferred to ConocoPhillips Gulf of Paria B.V. (CGP). It held 32.2075% in the Project, alongside with CVP, a PDVSA subsidiary (35%), Eni (25.8%) and two smaller investors, OPIC and Ineparia (7%).

521. The Project was at the beginning of its operation in the summer of 2007 based on an amended Development Plan issued on 3 March 2005 (C-181) that projected production of 30,000 BPD of light and medium crude oil in the offshore New Areas in the Gulf of Paria. Production was estimated to rise to 70,000 BPD when the Central Production Facility (CPF) came online at an expected date in late 2008. Production did not take place prior to ConocoPhillips' handover of the operatorship of the Project to PDVSA on 1 May 2007[351], followed by the formal expropriation on 26 June 2007.

[350] Cf. C-17, C-17A, R-29.

[351] Decision on Jurisdiction and the Merits ("the 2013 Decision"), para. 167.

1. *The Claimants' Position*

522. On 8 April 2003, the Development Plan for Corocoro (C-184) was approved by CVP and the other members of the Project's Control Committee, which included representatives of the Ministry. Over the course of the next two years, substantial investments were made by the project participants, including (a) a wellhead platform; (b) an Interim Production Facility (IPF); (c) a floating storage and offloading vessel; and (d) a series of underwater pipelines connecting these facilities. By the time the Project was expropriated, the Corocoro Project was close to enter into profitable, commercial production.

523. The Claimants assert that their case on Corocoro production volumes is overwhelmingly confirmed by the contemporaneous evidence. Their experts project the recovery of 205 million barrels of oil over the period 2007 to 2021. They started with the production profile contained in ConocoPhillips's Composite Economic Model (CEM; LECG-085) for Corocoro, as updated in late 2006 and endorsed by PDVSA at that time; they then revised that profile to be consistent with ConocoPhillips's slightly lower Reserves figure for the Project (at 205 million barrels).

524. The pre-expropriation business planning documents support the Claimants' experts' production profile. The Project participants agreed to the Corocoro Development Plan Addendum (DPA) in March 2005 (C-181). It was approved by the Ministry that same month (C-210). The Claimants and PDVSA anticipated the recovery of 231 million barrels of oil during Phase I of the Project. The Claimants' experts have nevertheless relied on the more conservative production figure of 205 million barrels derived from the Claimants' assumption of the available Reserves that did comply with the SEC requirements. According to the Development Plan Addendum, a further 215 million barrels of oil would be recovered during Phase II of the Projects, plus another 200 million barrels thereafter based on an expected extension to Phase II. The Claimants' experts have excluded these additional volumes.

525. The Claimants and Venezuela do not differ widely on the ultimate volume of oil to be produced at Corocoro. The Respondent's experts project a total recovery of approximately 181 million barrels that is nearly 10% less than the Claimants. The Claimants' profile is supported by PDVSA's Proved Reserves figure for the Project and therefore must be preferred.

526. The most substantial dispute between the Parties relates to the rate at which Corocoro's wells will produce that oil. Based on the Development Plan Addendum, Abdala&Spiller assume a maximum production output of nearly 70,000 BPD by 2013, with production then decreasing until 2021. Brailovsky&Flores assume a maximum production level of only about 37,000 BPD, but over a longer period of time, ending in 2032. Venezuela assumes a slower extraction of crude based on the alleged post-expropriation performance of the Project. However, this is the result of the implementation of a different oil extraction strategy by the post-expropriation Project, known as Petro-Sucre.

527. The Respondent's expert Mr. Patiño argues that the production plan set out in the Development Plan Addendum is premised on a misunderstanding of the geology of the Corocoro field, which has turned out to be less favorable than all of the Project participants had understood prior to the expropriation. Eni's models show that the production profile adopted in the Development Plan Addendum is unachievable. However, Dr. Strickland explains that the differences are not as substantial. The geological models produced by ConocoPhillips and by Eni have many similarities; their differences cannot explain the difference in production levels argued between the parties. In any event, Eni's understanding of the fields suggests rather a more recoverable oil field than the participants had thought in 2007.

528. Dr. Strickland explains that the new *empresa mixta*, PetroSucre, has deviated from the pre-expropriation Project participants' plan to use significant volumes of water injection to increase the productivity of the wells. PetroSucre is injecting far lesser quantities of water into the reservoir. Water injection is a means of ensuring sufficient pressure in a reservoir to achieve desired production levels. PetroSucre's reduced water injection program and corresponding oil production rates can be compared to the pre-expropriation plan for Corocoro that the Claimants, as the operator of the Project, would have applied. In a departure from what had been agreed in the Development Plan Addendum, the amount of water actually injected has been less than the volume of oil extracted, meaning that the new operator is not fully replacing the lost pressure caused by the extraction of oil. This operational decision by PetroSucre represents a substantial deviation from the course that ConocoPhillips would have pursued at Corocoro. The lower production levels achieved with the reduced levels of water injection cannot be attributed to the Claimants.

529. The Corocoro Project was to begin processing its oil production at an Interim Production Facility (IPF), which would have the capacity to process 30,000-35,000 BPD. The IPF would operate pending the construction of the Central Production Facility (CPF), which would have the capacity to process 70,000-75,000 BPD of crude. While the original plan was to de-commission the IPF once the CPF was operational, the PDVSA shareholder, CVP, believed that the volume of production from the field would justify keeping them both online. At the time of the taking, the Corocoro Project was on the verge of commencing production. The IPF was scheduled to be operational in the summer of 2007, with the CPF following in late 2008. Venezuela states that the IPF in fact entered into service only in January 2008, and the CPF in February 2012, and that these delays were attributable to the Claimants.

530. The Claimants also explain that the Nationalization Decree was announced in February 2007, less than six months prior to Corocoro's expected production start, when ConocoPhillips had already dedicated nearly five years to developing the Project. The Decree required that the control of the Project be assumed by a PDVSA-controlled Transition Committee within one month's time, and that PDVSA assume full operational control by 1 May 2007. The evidence shows that Venezuela paid little heed to managing the Corocoro transition. PDVSA rarely called Transition

Committee meetings and showed disorganization. PDVSA's mismanagement delayed the Project's progress, but Venezuela now seeks to attribute the delays to ConocoPhillips. While it is true that ConocoPhillips recommended additional safety measures to ensure that the IPF could withstand a "100 year storm", this would not have added time to the completion date or, at most, four months.

531. ConocoPhillips placed various options for modifying the IPF before the Transition Committee in April 2007, but to no avail. No action was taken. The IPF was completed by the manufacturer in August 2007 and, if diligently handled, would have started production three weeks later. In fact, production started in January 2008 only. All delivery delays to which Venezuela's Witness, Mr. Marcano, now points, relate to contractual deadlines falling after the 1 May transfer, when PDVSA was responsible for contract management. Relying on Mr. Marcano, Venezuela submits that the Project was significantly behind schedule in May 2007. The presentation slides referred to do not discuss details, and Mr. Marcano was not present at those meetings.

532. Venezuela relies upon hearsay testimony taken from the unrelated *Universal Compression v. Venezuela* arbitration[352], arguing that the CPF would have been delayed regardless of the unlawful taking. No weight can be given to such material. The Tribunal should trust the testimony of Witness Chamberlain, to the effect that, at the time of the taking, the construction of the CPF was on schedule, and that it should have been delivered by the end of 2008[353]. Venezuela disregards its own delays. The CPF was delayed by more than three years under PDVSA's post-expropriation management of the Project. The CPF was on track for first production by late August 2008. In sum, the alleged delays to the Corocoro production facilities cannot be attributed to the Claimants and must be disregarded for purposes of the but-for quantum calculation. The CPF was on schedule as of the expropriation date. Likewise, the alleged delays to the CPF arose after the expropriation and under PDVSA's management, to which they are properly attributable.

533. The Claimants use again the same production forecast for its date-of-expropriation valuation for Corocoro. That forecast foresees the recovery of 205 million barrels of oil over the period 2007 to 2021. The Respondent's experts rely in this regard on the forecasts contained in Mr. Figuera's July 2009 witness statement. On this basis, the total volume in the forecast is 182.8 million barrels; Mr. Figuera projects lower production rates. While the Claimants' experts, relying on the Development Plan Addendum, project daily production rising to approximately 70,000 BPD, the Respondent's experts limit production to a maximum of 52,800 barrels per day, and, in most years, less than 45,000 BPD. There is no dispute that as of the time of the taking, all Project participants had agreed to pursue the oil production plan in the Development Plan Addendum. They collectively endorsed a strategy of injecting significantly more water than the oil produced. Any

[352] *Universal Compression International Holdings, S.L.U. v. The Bolivarian Republic of Venezuela Respondent*, ICSID Case No. ARB/10/9, Order Suspending the Proceeding (R-553).

[353] Witness Statement, 30 October 2009, para. 23.

valuation made as of 2007 should take care of this. Venezuela assumes in its 2007 valuations for Corocoro that production would begin at the IPF in January 2008, at a rate of 19,800 BPD in 2008 and 32,300 BPD in 2009, and that full production with the CPF would not be underway until January 2010. However, at the time of the taking, the IPF was scheduled to start production in July or August 2007, and the CPF was scheduled to begin production in late 2008. Any delays to the completion of the IPF and CPF are attributable to Venezuela's and PDVSA's own shortcomings.

2. *The Respondent's Position*

534. The Respondent offers an extensive historical overview about the origin of the Corocoro Project that is, in its view, useful to understand the delays that have been characteristic for this site and the low production profile. Unlike at Petrozuata and Hamaca, ConocoPhillips was the operator of the Corocoro Project prior to the nationalization and therefore had a larger degree of responsibility for what happened during that period.

535. In the first phase of the development of the Corocoro Project, ConocoPhillips proposed a total of 24 wells, for a production estimated at 250 million barrels of oil. The 2002 Corocoro Development Plan contemplated infrastructure including a single 24-well wellhead platform in the eastern part of the field, a floating production unit (FPU) and a floating storage and offloading system (FSO), at a total cost of US$ 557 million (in 2002 US dollars). Oil production was expected to commence in late 2004 or early 2005. The Plan also provided that Conoco would undertake additional exploratory drilling in the western part of the field so that the Project would be prepared to implement Phase II in 2006.

536. Within months of the approval of the 2002 Development Plan, ConocoPhillips determined that it had underestimated the costs. Following a reassessment of the situation, a first series of delays occurred. ConocoPhillips decided to replace the floating production unit, a large vessel, with the CPF. ConocoPhillips also moved away from an engineering, procurement and construction strategy (EPC) to a new contracting strategy, whereby ConocoPhillips undertook the engineering in-house and provided that (a) the multiple components of the CPF, called "skids", would be farmed out to numerous contractors, including Venezuelan firms, and (b) the components would be integrated pursuant to a separate contract. This new contracting strategy was spelled out in the 2005 Corocoro Development Plan Addendum (C-181).

537. This Addendum was approved in early 2005. Phase I infrastructure costs were estimated at US$ 810.3 million (in 2003 US dollars). Phase I was sub-divided in two sub-phases, IA and IB, having different well configuration. In Phase IA, 14 wells were to be drilled, and in Phase IB 10 additional wells. The Addendum contemplated a total of 14 production wells, and 10 water injection wells. The Addendum contemplated first oil in early 2007, more than two years later than had been originally projected. It was also stated that there would be an opportunity to install an Interim Production Unit in early 2006 and accelerate the first oil date. This did not happen.

538. None of the wells contemplated in Phase IA were drilled. Thus, there was no possibility of commencing production with an IPF in early 2006. This delay did not make any difference, as the delivery of the floating storage and offloading system (FSO) was delayed and no efforts had been made to contract for an IPF for delivery in early 2006. Thereafter, the schedule for the drilling of wells continued to slip; the starting date for drilling did not occur until May 2006. ConocoPhillips did not engage in any additional exploratory drilling in the western part of the field.

539. With respect to the IPF, it was projected in October 2005 that a contract would be in place by December 2005, so that the unit could be installed at the site by October 2006, and operations commence in January 2007. Further slipping of dates occurred and no contract for the IPF was ready on 26 April 2006. ConocoPhillips contracted with Hanover on 29 September 2006, and it was envisaged that early production with the IPF would begin in May 2007, when seven wells were projected to be ready for production. In March 2007, a project schedule reflected a start-up of the IPF in May 2007 (C-383). This March 2007 schedule was the last document including an "Overall Project Schedule" prepared by ConocoPhillips. At the same time, ConocoPhillips requested changes to the IPF, increasing costs by US$ 5.2 million[354]. ConocoPhillips also advised the Corocoro Transition Committee that there would be additional delays associated with the installation of gas metering equipment not included in the IPF's design.

540. In the first phase of this case, the Claimants assumed production at Corocoro of 30,000 BPD for the entire second half of 2007, even though they knew that the IPF would not be ready at that time. They claim in this phase that the IPF was scheduled to start production in July or August 2007, although the IPF was nowhere in sight at the time ConocoPhillips left the Project at the end of June 2007. The Claimants submit that the construction of the IPF was completed in August 2007, but they have no other evidence than an attachment to the IPF contract dated 25 September 2006. In fact, the IPF was delivered to the site in October 2007.

541. In sum, the Claimants have ignored the entire history of the IPF, leaving the impression that everything was proceeding exactly as planned when ConocoPhillips decided against migration. The IPF was behind schedule and ConocoPhillips was introducing design changes as late as April 2007. The IPF commenced operation in January 2008. There is no basis for projecting any production prior to that date.

542. The 2005 Corocoro Development Plan Addendum projected completion of the CPF by early 2007, further providing for a short delay. That schedule was fantasy compared to ConocoPhillips' "Overall Project Schedule" presented in October 2005. This presentation revealed that the skids that were to comprise the CPF were scheduled to be delivered by October 2006, with production with the CPF starting in August 2008. In a 26 April 2006 presentation, ConocoPhillips

[354] Figuera Appendix 92.

exhibited a new "Overall Project Schedule". The new delivery date for the skids was November 2006, rather than October 2006, the slipping to the site occurring in March/April 2008. The same presentation showed that 21 of the skids were procured in seven locations in the United States, while 13 were procured from fabricators at five locations in Venezuela. ConocoPhillips was managing the engineering from its offices in Houston, until mid-2006. This appeared to be a big mistake that resulted in enormous delays. Each skid contractor was treated separately and provided with basic engineering drawings only. Detailed engineering had to be done in cooperation between each contractor and ConocoPhillips until the drawings were considered appropriate. By October 2006, ConocoPhillips reported that the skids from Venezuela were completed on an average of 64% only.

543. A new presentation of the "Overall Project Schedule" was submitted in March 2007. Therein, ConocoPhillips separately set forth schedules for the National (Venezuelan) skids and the "International" (mostly US) skids. For the latter, delivery was fixed at December 2006, but it was clear in March 2007 that not all of the international skids had been delivered. For the Venezuelan skids, a delivery date by March 2007 was set forth. However, when visiting the integration yard, it was obvious that many of those skids had not been delivered by then and that there would be further substantial delay. The delays in the skid deliveries were far worse than what was reflected in the ConocoPhillips "Overall Project Schedule". Many of the Venezuelan skids were far behind schedule. There were also serious issues with one of the US fabricators, Williams Production Services (WPS) in Louisiana. The first skid from this fabric had been delivered in November 2006, and the others in May 2008 only.

544. In the first phase of this case, the Respondent referred to the problems presented by the poor performance of this US contractor. After the 2010 Hearing, a company called Universal Compression, having taken over the IPF contract following a merger with Hanover, brought a case against Venezuela under the Venezuela-Spain BIT seeking compensation for the 2009 nationalization of its gas compression equipment. One of the issues in the case was compensation for the expropriation of the IPF, which remained in service as of June 2009 due to delays for the CPF. One of Universal's counsels, Mr. Price, reported about the CPF being substantially behind schedule, and said that he was told by ConocoPhillips that the delay in the completion of the CPF would be for many years. The Claimants contend that Mr. Price's testimony was not reliable. They assert that the testimony of Mr. Chamberlain should be credited, recalling that the CPF was on schedule. The Respondent submits that Mr. Price had no interest in blaming anyone for the delay in the CPF. The Respondent also recalls that the Claimants insisted in having Mr. Chamberlain submit a second witness statement, which he never did.

545. In sum, it was already well known prior to the nationalization that the scheduled start-up date for the CPF would be long delayed, and there can be no doubt that the CPF was actually delayed until 2012. In light of the delays associated with both the IPF and the CPF, the production profile that the Claimants and their experts used in their *ex ante* analysis for Corocoro is untenable.

546. Wholly apart from this issue on delays in delivery of the IPF and the CPF, the fact is that the Corocoro Project in any event could never achieve the production levels projected by ConocoPhillips. The geology at Corocoro would never have permitted rates of 10,000-11,000 BPD per well, as ConocoPhillips originally projected in 2005. ConocoPhillips mischaracterized the field as a system of incised valleys, when in reality the field is appropriately characterized as one with fluvial channels. Consequently, the production rates were far lower than those ConocoPhillips projected, with average rates at the outset of 1,500 BPD, 4,000 BPD and 900 BPD for reservoirs 70A, 70B and 70E, respectively.

547. The Claimants have contended that higher production levels could have been expected and would have been achieved had the Project injected more water to support the pressure in the field. But ConocoPhillips always recognized that there were substantial uncertainties regarding this method. The 2002 Development Plan (LECG-139) included as one of those uncertainties the effect of "reservoir heterogeneity on waterflooding", where water breaks through the reservoir creating channels to the producing wells. This was considered serious by ConocoPhillips when it stated in an internal document of August 2007 that water injection should not be used as long as its benefits are not demonstrated[355]. In an *ex ante* context, the effects of waterflooding were at best speculative.

548. Thus, the information that was available as of the date of the nationalization revealed that the production profile for Corocoro in the ConocoPhillips Composite Economic Model (CEM) could not be achieved. It would have been apparent that the start-up of the IPF, with a processing capacity of about 30,000 BPD, would have been delayed until at least the end of 2007, meaning that there would be no production in 2007; that the start-up of the CPF, with its greater level of processing capacity would be delayed for a number of years; and that in any event, the field could not achieve the levels of production contemplated by the 2005 Corocoro Development Plan Addendum with the infrastructure that was in place in light of the quality of the field. A reasonable buyer taking into account all of the available information as of 26 June 2007, would have projected far lower production volumes, consistent with the volumes set forth by Mr. Figuera's testimony.

549. The Respondent further submits that the crude oil production at Corocoro during the post-nationalization period has been far lower than both the volumes that had been projected in the pre-nationalization models upon which the Claimants rely and the volumes assumed by the Respondent in its *ex ante* assessment.

550. In their *ex post* analysis of production volumes at Corocoro, the Claimants assume again that the pre-nationalization planning document was correct in all respects. So, they make no adjustments to production volumes or costs (other than in respect of inflation). The Claimants' continued reliance on the 2005 Corocoro Development Plan Addendum as a basis for their *ex post*

[355] Corocoro RCAT Review, August 2007 (LECG-50).

production profile is entirely unwarranted, as actual production has revealed that even the production volumes that Mr. Figuera projected in the first phase of this case were overly optimistic.

551. The Claimants contend that the differences in geological interpretations of the field by ConocoPhillips and Eni are not that significant because the ultimate production under both interpretations is about the same. As shown by Mr. Patiño, the difference is of critical importance to the production levels actually achieved in the historical period as well as the overall production profile. There is a significant difference in value between (a) a project capable of producing oil at a rate of approximately 70,000 BPD that recovers 205 million barrels in a 15-year period, and (b) a project capable of achieving peak production of only about 40,000 BPD that recovers 184 million barrels over a 25-year period.

552. The fact that PetroSucre had injected lesser volumes of water than what was provided for in the development plans has had minimal impact. It has been the result of geological factors and the limitations of the surface facilities planned by ConocoPhillips. In many parts of the field, large volumes of water did not in fact have the pressure that had been required, waterflooding was much more difficult to manage and the surface facilities had limited capacities to treat the produced water. Seven years of production history at Corocoro have revealed that ConocoPhillips was wrong about most things in the field, including the appropriateness and effectiveness of a massive water injection program. In sum, in the *ex post* analysis, taking into account not only actual production in the historical period, but also what has been learned about the field, the Respondent's experts have relied on the production estimates based on PetroSucre's 2013 Reservoir Model.

3. *The Tribunal's Findings*

553. The Tribunal notes the explanations provided in respect of the pre-expropriation history of the Corocoro Project. Witness Lyons blamed the PDVSA-lead Transition Committee for not having acted expeditiously in order to have the IPF in place in August 2007[356]. However, the Tribunal understands that this information is of limited relevance for its task to determine the consequences of the expropriation that took effect on 26 June 2007. At that time, the Project had already accumulated delays that do not have to be analyzed here. The Parties may debate a number of contractual dysfunctions that certainly occurred but that are not for this Tribunal to decide. While the dates recorded for the entry into operation of the IPF are not always identical, January 2008 seems to be correct, as this date can be found in the statements of both Parties[357]. Therefore, no production has to be accounted for in 2007.

[356] Fifth Witness Statement, 13 October 2014, paras. 58-64.

[357] Claimants' Final Submission on Quantum, para. 295, 304; Respondent's Final Brief on Quantum, para. 174. Witness Figuera, Testimony, 20 July 2009, para. 58; Third Supplemental Testimony, 15 August 2014, para. 110. Witness Chamberlain, Statement, 30 October 2009, para. 23.

554. The start-up of the CPF was seriously delayed. While the precise date of its availability is disputed, oil production between January 2008 and this availability was based exclusively on the output of the IPF. Albeit submitted together with different lines of argument, both Parties take the daily production of 30,000 BPD as the bottom level[358], at least as from the year 2009. In order to achieve significantly higher production, the operation of the CPF was required. In other words, such higher production levels were initially scheduled starting at the end of 2008, but in fact deferred to February 2012 when the CPF was finally put in place[359].

555. The Claimants blame the Respondent for the delays in the delivery of the CPF and draws as a consequence that higher than actual production levels should be assumed as from the end of 2008 when the CPF was scheduled to start operation. The Respondent with Witness Marcano[360] complains about deficient handling by ConocoPhillips of the construction and delivery of the CPF. The Tribunal's task is not to explain the contractual liabilities to be assumed by one side or the other, but to determine whether it was reasonably certain that the delay in the delivery of the CPF would occur and therefore as well the point when higher volumes of oil production could be expected. The answer results from the Project's partners experiences made already in the years 2006 and 2007 when delays in the deliveries of parts ("skids") to be assembled in the CPF had occurred at various times. Witness Chamberlain reported about disappointing experiences with the PDVSA's lead Transition Committee[361]. Further difficulties were to be expected in the near future. The ConocoPhillips partner could not be reasonably certain that the CPF would be in place at the end of 2008. Further delay was to be expected362, although the actual delivery as late as in early 2012 was not in the range of what the operator had to be aware of in 2007. However, the Tribunal cannot speculate what would have been a reasonable target at that time. It will retain the year 2012 as the beginning of the period when the operation of the CPF allowed reaching production levels above the volume that could be handled by the IPF.

556. The CPF had a maximum design capacity of about 70,000 BPD. The respective positions of the Parties concentrate on the question of whether this production target could be reached and, in the negative, what would be the reasonable volume to be retained on a yearly basis until the available Reserve had been extracted. Witness Figuera noted a target of 65,000 BPD[363].The Respondent's experts take as their main parameter about 40,000 BPD, resulting in a recovery of 184

[358] See also Witness Figuera, TR-E, 2010 Hearing, Day 8, p. 2157:9-2158:16, 2279:10-22; TR-E, 2017 February Hearing, Day 8, p. 2446:12-15, 2506:11-14.

[359] Date confirmed by Witness Marcano, Direct Testimony, 6 January 2015, para. 38; TR-E, 2017 February Hearing, Day 10, p. 3047:15-19.

[360] Direct Testimony, 6 January 2015, paras. 26-38.

[361] Witness Statement, 30 October 2009, paras. 27-40, 43-45.

[362] Witness Figuera, Supplemental Testimony, 26 January 2010, para. 120, set 90% completed delivery in January 2010.

[363] Testimony, 20 July 2009, para. 57.

million barrels between 2008 and 2032 (25 years), whereas on the basis of 70,000 BPD the Claimants' experts envisage recovering 205 million barrels between 2008 and 2023 (15 years). The profile to be retained by this Tribunal is thus placed in between a double margin, depending on the overall duration of the recovery (between 15 and 25 years) and the peak volume between the two extremes of 40,000 BPD and 70,000 BPD. The third factor is then the total recovery, but it seems less important given the fact that the experts' disagreement is in a range of 10% only. In order to determine whether these figures are compliant with the actual production of the field, the Tribunal will take account, as it has done for Petrozuata and Hamaca, of the data available on its record in respect of the sales of Corocoro oil and the corresponding volumes of production. The relevant figures will be analyzed and considered below.

557. One of the main arguments against a target of 70,000 BPD is based on Mr. Patiño's assumption that the geology of the Corocoro site would never permit rates above 10,000 or 11,000 BPD per well. However, Mr. Patiño argues that during the first 12 months when the wells were active, the average production per well of the three reservoirs 70A, 70B and 70E was approximately 1,500, 4,000 and 900 BPD, respectively[364]. Mr. Patiño explains in this respect that injecting higher water quantities would not have the effect of increasing production; such a program would not add more oil to the ground, but it will increase the pressure on the oil and extend it for a longer time. This does not offer an adequate answer to the lower availability of oil than initially expected. Witness Marcano explains that reduced levels of water injection were caused by the lower initial production of the wells; less water was thus needed to replenish the reservoirs[365].

558. The Tribunal concludes that it cannot resolve the controversy between the experts on the basis of geological and physical characteristics of the field that are not translated into actual oil production volumes. Its task consists of determining such volumes and to draw the appropriate consequences in respect of the Project's participant's loss.

559. The Claimants and their experts insist on the maximum production output of nearly 70,000 BPD referred to in the Development Plan Addendum (C-181, LECG-003). In fact, this plan identifies this number as a target, whereas the actual maximum figures varied between 64,000 and 66,500 BPD to be reached between 2007 and 2011, eventually 2013 (p. 50, 56-58). From then on, recovery would decline on a regular pace until 2026 (ending with about 10,000 BPD). The Project's Reserve for Phase I was estimated at 231 MMB; this was a mean of several probability estimates ranging between 89 and 163 MMB (p. 49/50). Production was estimated at 208 MMB over a period of 20 years (p. 8). The Claimants' experts submitted that they had reduced the figure of 231 MMB to 205 MMB[366], not noting that this adjustment was already made by the Development Plan (to

[364] Consolidated Expert Report, 17 October 2016, para. 247.

[365] Direct Testimony, 6 January 2015, paras. 45-52.

[366] Consolidated Update Report, 17 November 2016, para. 57.

208 MMB). The same experts rely on ConocoPhillips Corocoro RCAT Review of 7 August 2007 (LECG-050), where it is noted that the Phase I Recovery represents 205 MMB (p. 13, 48, 49/pdf), without explanation. The same Review notes that the daily production will vary between approximately 20,000 and 26,000 MMB in the years 2008 to 2013, before the average declines more seriously.

560. Mr. Patiño's production schedule is based on the PetroSucre Reservoir Model 2013 that has been prepared by this PDVSA affiliate and the other partner Eni[367]. The model includes all available data as of 2012. Mr. Patiño's conclusions have not been elaborated by him but represent the production forecasts presented by the model for various scenarios[368]. The accumulated production of the field through 2032 was 183.8 MMB[369]. The Claimants' experts did not examine this Model nor Mr. Patiño's presentation. This Model is extremely detailed and not limited to a simple assembly of slides as the RCAT Review. More important is the fact that this Model is six years more recent and includes actual production figures in the years 2008 and 2013, showing that the RCAT Review overestimated yearly production by a little bit less than half. The same production volumes are represented by the tables collecting the results derived from the collection of invoices for the period between 2008 and 2015[370]. Dr. Strickland's conclusions do not lead to another result, except for the correction that he thinks achievable if higher water and/or gas injection rates was used[371]. In the absence of supportive evidence for a production total of 205 MMB that goes above simple presentations based on slides, the Tribunal retains the figure of 183.8 MMB as the prospective total production until the end of Phase I.

561. The next question is then how to determine the year-by-year rate of production until the end. The rate at which Corocoro's wells will produce oil is uncertain. The PetroSucre Reservoir Model shows a peak period between 2009 and 2015 and a downward slope since 2016 that becomes regular as from about 2020, until the last year, 2032[372]. For the RCAT Review, the peak period is between 2009 and 2013, when the downward trend starts running until 2021. On the basis of these two documents, the Tribunal recognizes that while the peak periods are similar in their duration, the PetroSucre Model shows clearly lower volumes per year thereafter. This Model seems therefore more suitable for the purpose of assessing production over the whole duration of Phase I. In one respect, however, a correction has to be made. Mr. Patiño and the PetroSucre Model provide for a

[367] Patiño Appendix 36.

[368] Cf. Consolidated Expert Report, 17 October 2016, paras. 226-236.

[369] Cf. the Model (p. 136/S, 77/E) and Patiño, Consolidated Expert Report, 17 October 2016, para. 236.

[370] Tables submitted by the Respondent on 20 March 2017, based on Figuera Appendices 84-89, R-527, Brailovsky/Flores Appendices 359/360; TR-E, 2017 March Hearing, Day 14, p. 4292:14-4293:12 (Preziosi). See also Figuera, Testimony, 20 July 2009, para. 60; Third Supplemental Testimony, 15 August 2014, para. 104.

[371] Cf. Consolidated Expert Report, 17 October 2016, paras. 18-20, 143-158.

[372] Cf. p. 176/S, 76/E; Consolidated Expert Report, 17 October 2016, para. 236; Respondent's Final Brief on Quantum, para. 379.

term of production in 2032. The Composite Economic Model (CEM) determined the end of production in 2026 (p. 125, 128/pdf). This projection should prevail in a but-for scenario. The difference accumulates the volumes for the years 2027 to 2032 in PetroSucre's Model (*i.e.* 17,726 MMB). The Tribunal finds that the most suitable adjustment is to add a volume of 1,772 MMB to the production for each year between 2017 and 2026. Contrary to the findings in respect of the end of production to be accounted for the Petrozuata and Hamaca Projects, the reduced production at Corocoro reflects real terms that can be compared to the Respondent's figures; moreover, the term in year 2026 does represent simply the end of phase I, when continuing extraction will be on schedule for phases II and III (not to be considered in this proceeding).

562. Finally, the Tribunal observes that the actual monthly peak production varied between 39,792 BPD (2011), 42,476 BPD (2012) and 39,170 BPD (2013), and will most probably become lower in the following years, in parallel to the field decline. Witness Figuera notes that in light of the production capability of the Corocoro field[373], it turned out that the CPF was unnecessary[374]. This is, however, not a matter to be considered by this Tribunal.

563. The figures submitted by the Parties together with the adjustment for the overall production duration retained by the CEM are therefore as follows:

[373] The capacity of the IPF had been increased from 30,000 BPD to 42,000 BPD to accommodate production as additional wells came on line; Marcano, Direct Testimony, 6 January 2015, footnote 70; TR-E, 2017 February Hearing, Day 10, p. 2997:9-12. The Witness added that they thus increased the production level to what had been planned through the IPF; the CPF was not a problem for the production of the field because they had the IPF (TR-E, 2017 February Hearing, Day 10, p. 3039:13-3040:9).

[374] Third Supplemental Testimony, 15 August 2014, para. 107.

Corocoro – Production								
	Claimants[375]		Mr. Patiño, based on PetroSucre Model[376]		Respondent[377]		Adjusted to duration as per CEM	
	BPD	MMB	BPD	MMB	BPD	MMB	BPD	MMB
2007 ½	29,589	5,400	0	0	0	0	0	0
2008	21,408	7,814			19,624	7,182	19,624	7,182
2009	64,954	23,708			31,461	11,483	31,461	11,483
2010	66,263	24,186			36,033	13,152	36,033	13,152
2011	66,485	24,267			36,204	13,214	36,204	13,214
2012	66,546	24,356			36,829	13,479	36,829	13,479
2013	57,745	21,077			36,537	13,336	36,537	13,336
2014	42,126	15,376	35,176	13,052	35,176	12,839	35,176	12,839
2015	31,833	11,619	33,066	12,134	33,066	12,069	33,066	12,069
2016	27,476	10,056	30,128	11,027	30,128	11,027	30,128	11,027
2017	25,163	9,184	25,838	9,431	25,838	9,431	30,693	11,204
2018	22,163	8,080	20,925	7,638	20,925	7,638	25,781	9,411
2019	19,412	7,085	18,276	6,671	18,276	6,671	23,132	8,444
2020	17,164	6,392	16,321	5,974	16,321	5,974	21,222	7,747
2021	15,836	5,780	14,883	5,432	14,883	5,432	19,737	7,205
2022			13,677	4,992	13,677	4,992	18,532	6,765
2023			12,317	4,496	12,317	4,496	17,173	6,268
2024			10,843	3,969	10,843	3,969	15,729	5,741
2025			10,237	3,736	10,237	3,736	15,090	5,508
2026			9,659	3,525	9,659	3,525	14,512	5,297
2027			9,136	3,335	9,136	3,335		
2028			8,645	3,164	8,645	3,164		
2029			8,236	3,006	8,236	3,006		
2030			7,849	2,865	7,849	2,865		
2031			7,496	2,736	7,496	2,736		
2032			7,158	2,620	7,158	2,620		
Total		204,380				181,371		181,371
1	2	3	4	5	6	7	8	9

H. By-Products

564. The Projects were of course producing oil in very large quantities representing the bulk of the extraction work undertaken. Nevertheless, this operation also produced so-called By-products, like coke, sulfur, natural gas and LPG (liquefied petroleum gas). Such products are listed in the models, mainly the Composite Economic Model (CEM, LECG-085) and the Ameriven Economic

[375] MMB from CLEX-086, mostly based on CEM (LECG-085), p. 127/128/pdf, and further aligned to the Claimants' Tables of 20 March 2017.

[376] The numbers for MMB are taken from Patiño, Consolidated Expert Report, 17 October 2016, para. 236. The numbers for BPD are calculated on this basis. The Respondent uses the same numbers as from year 2016.

[377] For the years 2008 to 2015, the Respondent uses the figures resulting from the actual sales in that period (cf. Tables submitted on 20 March 2017), and it offers the conversions into BPD. Witness Figuera, Testimony, 20 July 2009, para. 60; Third Supplemental Testimony, 15 August 2014, para. 104; Figuera, Appendices 84-89, Brailovsky/Flores, Appendices 359, 360.

Model (Hamaca, LECG-129). They represent approximately 2 to 5% of the overall quantity of products extracted from the fields.

565. In large parts, such By-products were sold on the respective markets and produced revenues. The Claimants therefore may have submitted that they had suffered a loss comparable to the loss of the revenue from the sale of oil, albeit in much smaller proportion.

566. As regards By-products the Claimants' initial request for relief did not determine the nature of the loss they suffered or request for compensation. Expressly or implicitly, the Claimants connected the damages claimed "to their interest in the Projects". Such a broad designation, neither exclude nor include the By-products. When explaining the fair market value of the Projects, the Claimants Memorial of 15 September 2008 relied on forecast oil prices (para. 449), but no mention is made of the pricing of By-products. The same results from the Claimants' Reply of 2 November 2009.

567. Some elements can be found in the description of the loss of each Project and the ensuing calculation of damages. When the Claimants' Memorial on Quantum of 19 May 2014 determines the volume of production, the subject is oil production exclusively. The By-products are not mentioned. In order to quantify their losses, the Claimants relied on their experts who assessed as first component "the volumes of crude oil and upgraded syncrude produced by the Projects"[378], which are based on the "Reserves figures"[379], which are composed of oil exclusively. The Petrozuata production profile was based on oil (para. 120). Turning to Hamaca, the same submission noted the volume of extracted crude and of upgraded syncrude, adding to this "as well as saleable By-products such as sulphur and coke" (para. 139), but without further elaboration on this point. The price data referred to oil and not to the By-products (paras. 168-176)[380]. The amounts claimed by the Claimants in their request for relief reflected damages for the lost cash flows that would have accrued "from their interests". The Reply on Quantum of 13 October 2014 uses the same terms. By-products are not mentioned. Again, in the Final Consolidated Brief of 30 December 2016, the By-products do not appear; the Claimants request this Tribunal to adopt production profiles based on oil[381].

568. When the Tribunal raised the question at the final hearing in September 2017, Counsel for the Claimants affirmed that the By-products had always been part of their case and that their sale

[378] Claimants' Memorial on Quantum, para. 105.

[379] *Ibidem*, para. 113.

[380] In respect of the production profile under the Hamaca Discriminatory Action provision the Claimants' experts excluded By-products; TR-E, 2017 February Hearing, Day 6, p. 1770:14-17 (Abdala). The Respondent's experts shared this opinion; Consolidated Expert Report on Valuation, 17 November 2016, footnote 295.

[381] Claimants' Final Submission on Quantum, paras. 14(a), 113, 130, 305, 499.

was counted in the models. The sale of these products was part of what had been taken away from them through the expropriation. He submitted that these products are included in their claim as they were in the models[382]. Faced with the observation that the By-products do not appear in the Claimants' briefs, Counsel undertook to provide the references[383]. They never did, although there was ample time left to include such information in their closing statement.

569. Counsel for the Claimants also submitted that in any event, both Parties agree that there is value in the By-products and that this should be part of the compensation owed by the Respondent[384]. He thought that the matter should be decided by the Tribunal's decision on the production levels. The By-products are thus part of the claim for the full value of what was taken from the Claimants.

570. Nonetheless, despite the Claimants' declaration, their claim must show that the loss of revenue related to these By-products has been included therein. The reference to the models may serve as a starting point to demonstrate the projections prevailing at that time. However, the models do not report on actual prices and do not offer a basis for an *ex post* valuation at the time of the Award. The Claimants have not presented sales figures that could serve as a basis for the estimation of revenues obtained. The By-products were sold under long-term contracts that included price formulas tied to market conditions[385]; they are not on the Tribunal's record. There is more: The Claimants' submissions do not contain a statement that their claim includes By-products, not even through an implicit reference to the models. When they introduced their respective production profile for Petrozuata and Hamaca, the Claimants referred to oil exclusively[386]. Their experts' Consolidated Update Report of 17 November 2016 does not address By-products. The experts' key valuation inputs were crude oil volumes and prices[387] and their discounted cash flow was based on crude oil production[388]. Their Report of 19 May 2014 does so very shortly, and in relation to royalty prices only and without explaining how they used their sources of information and made their

[382] TR-E, 2017 September Hearing, Day 17, p. 4893:11-4894:15, 4896:21-4897:4, 4899:1-3 (Friedman). Figures on production and sale of By-products are contained in the CEM (LECG-085) in respect of Petrozuata and Hamaca, not for Corocoro. The CEM is a document of 411 pages; the Claimants did not refer to any precise page(s) where the relevant information could be found. This document is not numbered consecutively nor indexed.

[383] TR-E, 2017 September Hearing, Day 17, p. 4894:17-22, 4896:18-21, 4899:4-11 (Friedman).

[384] TR-E, 2017 September Hearing, Day 17, p. 4895:12-4896:5 (Friedman).

[385] Petrozuata Annual Management Report to Lenders, 1 April 2007 (C-376, p. 4/pdf).

[386] Cf. Claimants' Final Submission on Quantum, paras. 179, 226.

[387] Consolidated Update Report, 17 November 2016, para. 5(a)(c).

[388] *Ibidem*, paras. 45, 49, 54.

calculations[389]. The figures noted in the experts' valuations' (CLEX-086) are not referenced to their sources and not provided with any comment.

571. The document entitled "Phillips Petroleum Company Justification and Premises" dated 9 October 1996 (C-122) had been presented by the Claimants as the basis for the Phillips' CEO Wayne Allen decision of 10 October 1996 to enter into the joint study agreement and to move forward with the Hamaca Project[390]. The document noted that there "is no positive cash flow anticipated from the sales of the sulfur or coke byproducts", and that "gas sales were not included in the economics"[391]. The Claimants' present view is that the models prevail over such a document; they represent the reality that is very different from the expectation in the 1990s[392]. Nonetheless, the explanation is a bit short and unsatisfactory when observing that the By-products, while certainly mentioned in the models, were not included in the Claimants' submissions.

572. The Respondent did not address the matter in its Consolidated Brief of 30 December 2016. Its experts have reproduced the sales figures provided by Witness Figuera for 2007 and 2008[393], and for the later years, they projected the volumes they found in the Composite Economic Model (CEM), as the Claimants' experts did, and then multiplied EHCO production by the proportions found in the CEM for each of the different By-products [394]. This seems to imply that the pricing follows the prices for EHCO – a position that would require further explanation and evidence.

573. The Tribunal concludes that the very few elements provided in the Claimants' documentation and expert reports do not permit an assessment of what would represent the loss of revenue resulting from an expropriation that included the By-products.

574. The Tribunal has the power to make a ruling on any "question submitted" (Art. 45(2) and 48(3) of the ICSID Convention). When the proceeding is on the merits, this requires a "claim" (as this results from Art. 46 of the ICSID Convention, providing for "additional claims") and a "dispute" (Art. 41(2), 43(b), 46 of the ICSID Convention). The Claimants in this proceeding have not presented a claim for compensation in respect of alleged losses of revenues accruing from the sale of By-products. Therefore, the Tribunal has no power to render a decision in this respect.

[389] Cf. page 59. The experts refer to their own collection of price forecast (CLEX-011), without providing any explanation. No documentary evidence was supplied.

[390] Cf. Claimants' Memorial, para. 109.

[391] C-122, p. 7/pdf. The Hamaca Confidential Preliminary Information Memorandum prepared by Morgan Stanley Dean Witter in August 2000 notes that the sale of By-products is expected, but that the Base Case Projections assume zero net profits from the sale of By-products. (p. 61/pdf).

[392] TR-E, 2017 September Hearing, Day 17, p. 4897:8-4898:22 (Friedman).

[393] Testimony, 20 July 2009, paras. 13 (Petrozuata), 39 (Hamaca).

[394] Cf. Consolidated Expert Report on Valuation, 17 November 2016, paras. 75, 249 (Petrozuata), 84, 260 (Hamaca), 140 (royalties).

VII. Costs

A. Petrozuata and Hamaca

1. The Claimants' Position

a. Overview

575. The Claimants explain that for the next input to the DCF computation in order to determine the Project's expected capital and operating expenses their experts rely on the same pre-expropriation business planning documents they use for production, *i.e.* the Composite Economic Model (CEM, LECG-085) for Petrozuata, and the Ameriven Economic Model (AEM or PAM, LECG-129) for Hamaca. They then adjust those costs to account for inflation in the industry[395]. International tribunals have established that contemporaneous business planning documents are preferred sources of evidence, as the *ADC v. Hungary* Tribunal held[396]. Both the ICC[397] and the ICSID[398] Tribunals in the *Mobil* case applied this principle, noting that the Parties agreed the budget on costs before the dispute arose. Venezuela had acknowledged that this was the correct approach[399].

576. However, since its Counter-Memorial on Quantum, and with the support of its new experts Brailovsky and Flores, the Respondent has taken a different view. While still using the Project's pre-expropriation models as the baseline on costs, Venezuela asserts that billions of dollars in "additional costs" have been or will be incurred by the post-expropriation projects, resulting in nearly doubling the expected operating expenses and quadrupling the expected capital expenses. The effects on the cost projections are considerable. While the Claimants' overall cost projection is US$ 36.8 billion, Brailovsky and Flores have US$ 50 billion.

577. Venezuela claims that oil production at Petrozuata and Hamaca is diminishing. It thus argues that more costs will be spent for substantially less oil. According to Brailovsky and Flores' model, cash flow became negative in 2015 and the Projects will suffer substantial losses in the future, to such an extent that the Projects should already have been shut down. This is not what happened. The post-expropriation documents show that PetroAnzoátegui and PetroPiar generated US$ 8.8 billion to their shareholders over the 7½ years from June 2007 to 2014.

[395] Cf. Abdala/Spiller, Consolidated Update Report, 17 November 2016, paras. 5(b), 60, 144-146.

[396] *ADC Affiliate Limited and ADC & ADMC Management Limited v. The Republic of Hungary*, ICSID Case No. ARB/03/16, Award of 2 October 2006 (CL-15).

[397] *Mobil Cerro Negro, Ltd. v. Petroleos de Venezuela S.A. and PDVSA Cerro Negro, S.A.*, ICC Case No.15416/JRF/CA, Final Award of 23 December 2011 (R-462).

[398] *Venezuela Holdings, B.V., Mobil Cerro Negro Holding, Ltd.,* et al. *v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/27, Award of 9 October 2014 (CL-348).

[399] Venezuela's Counter-Memorial, paras. 312, 341.

578. The Claimants submit that the alleged "additional cost" components are (i) unreasonable and/or unnecessary; (ii) unsupported by the evidence; (iii) ever changing, thus unreliable. Venezuela has not demonstrated that such costs had been incurred, and, even if so, that they would have been incurred by the Claimants. Venezuela's claims as to costs are addressed in Mr. Earnest's Consolidated Report.

b. The Respondent's claimed "Additional Costs" are unreasonable and/or unnecessary

579. The Claimants submit that this assertion is true for both the additional capital and operating expenses alleged. Furthermore, Brailovsky and Flores use the lowest possible exchange rate to Bolivar-denominated costs.

580. According to Venezuela, Petrozuata and Hamaca will incur turnaround costs in multiples greater than those projected prior to the expropriation. The alleged future costs are also greater than the actual costs incurred in 2005 and 2006. Venezuela argues that refinery maintenance costs are increasing worldwide. A brochure from Salomon Associates refers to a 15% annual increase[400]. This is not a reliable data source, but essentially a marketing document. For Hamaca, Venezuela adds maintenance costs that were called "PRAC" (Restoration Plan for Critical Assets) and "PREM" (Restoration Plan for Major Equipment), totaling approximately US$ 1 billion, that were never contemplated in the Project's Economic Model. Such massive expenditures have been useless. Venezuela asks the Tribunal to accept that despite huge claimed expenditures, the Hamaca upgrader will not operate on an OSF higher than 72.85% and be subject to increasing annual probability of catastrophic collapse.

581. The Claimants recall that Venezuela asserts operational costs allegedly spent on trucks to collect and deliver the coke and sulphur by the two upgraders to the Petrozuata Project's solids and handling facility. Mr. Figuera submits that the costs incurred between 2009 and 2014 are in the range of a quarter of a billion dollars. He argues that these costs became necessary because Petrozuata's new management failed to repair that facility after it was damaged by a fire in 2009. For the Claimants, a prudent operator would never spend US$ 250 million for such transport since the cost of repairing the facility was in the range of US$ 37.5 million[401]. The answer appears to be given by a governmental report finding that PDVSA had entered into improper contracts with CUFERCA, the trucking company (C-649). The Claimants mentions as another example the electricity generators purchased in 2010.

[400] Figuera Appendix 124.

[401] Claimants' Final Submission on Quantum, para. 336; in the Claimants' Reply on Quantum, para. 314, the corresponding amount was US$ 47 million.

582. The Respondent's experts rely on an incoherent mix of alleged historical and projected capital and operating expenses, many multiples greater than those agreed by the Project participants prior to the expropriation. Many of these costs are unverifiable, contradictory or subject to double-counting. For instance, its valuation experts add new well repair costs forecast by Mr. Figuera but they do not take out those costs which are already included in the Project plans.

583. Venezuela's costs figures are compounded by its inflation of those costs through exchange rate manipulations. The Respondent's experts assume that most operating expenses, half of all turnaround costs, and 30% of capital expenditures are incurred by the Projects in local currency, *i.e*. Bolivars. They apply to these costs Venezuelan inflation rates, and then convert them back into US$ at the lowest official exchange rate, thereby maximizing their negative impact on the Project's valuations.

584. The Claimants' experts explain that multiple legal exchange rates were available in Venezuela. A rational private operator would have had available numerous methods to access more favorable legal exchange rates or make payments directly in U.S. dollars. Experts Brailovsky and Flores do not meaningfully contest the options the experts Abdala and Spiller propose, like: (i) The Projects could have financed their operations through intercompany loans, which would allow access to more favorable, legal exchange rates. (ii) The Projects could have outsourced certain functions to third-party service providers and pay them in U.S. dollars. (iii) The Projects could have hired international suppliers and pay them in U.S. dollars.

585. For the period 2007 through early 2016, experts Brailovsky and Flores ignore these realistic options and apply the lowest possible exchange rate in their damages model. But even PDVSA does not do that. The financial statements confirm that the post-expropriation projects have in fact obtained Bolivars using more favorable foreign exchange rate regimes than those assumed by the Respondent's experts. These experts have accepted this fact. They maintain, however, that those preferable rates are allegedly available only to mixed companies, and not to projects operating under Association Agreements. This suggestion must fail. Exchange Agreement No. 9[402] does not make such a distinction, both before and since the expropriation. Further, the suggestion that Venezuela would discriminate against the two Projects in the but-for world is unsustainable. The forced migration is not a valid argument in support of the application of less favorable exchange rates to the Claimants.

586. For the period 10 March 2016 to 31 December 2016, Venezuela's experts adopt a different approach, assuming that the Projects would have had access to the more favorable, floating DICOM rate, but only 50% of the time. The experts have no explanation for this split. When realistic exchange rates are applied to the "additional costs", their impact is substantially reduced. When more

[402] Brailovsky/Flores Appendix 240.

favorable rates are applied, the Respondent's experts' cost projections become similar to the costs used in the Claimants' experts' model.

c. The Respondent's claimed "Additional Costs" are unsupported

587. Venezuela's "additional costs" claims should be rejected for a second reason: absence of proof. The Respondent's experts rely on alleged cost information provided by Mr. Figuera. Most of Mr. Figuera's "actual" information is either unsupported or prepared for this arbitration. The documents provided are insufficient. Notable is a quarter-page document in support of the alleged 2015 turnaround costs at Petrozuata, in the amount of US$ 1.1 billion. Mr. Figuera later admitted that the US$ 1.1 billion figure should be divided by three to account for future devaluations of the Bolivar. It has not been explained why this split applies to the Petrozuata 2015 turnaround only, and how this document can support such costs for a turnaround that finally did not take place.

588. The ever-changing nature of Venezuela's "additional cost" allegations renders them unreliable. In 2014 Venezuela told this Tribunal that the Projects would incur over one billion dollars for certain works in 2015, while Mr. Figuera has since admitted that those amounts have not been spent, and with respect to some, never will: (a) Solids Handling Facility Modernization. Venezuela initially claimed for 2015 US$ 200 million in costs to expand and modernize the facility. Two years later, Mr. Figuera withdrew the claim, submitting that no additional costs were needed. (b) Barge costs. Mr. Figuera also claimed that Petrozuata and Hamaca would each incur US$ 25.2 million to haul coke between 2015 and 2017. But he also admitted that such costs have never been incurred, and may never be incurred. (c) Trucking costs. Mr. Figuera submitted that Petrozuata would incur such annual costs for US$ 67 million per year from 2015 to 2017, but then withdrew the suggestion, such costs having never been incurred. In light of these most striking examples, one can conclude that other claims for "additional costs" are phantoms as well, as further explained by Mr. Earnest's Consolidated Report.

d. Comments on the Respondent's Cost Estimations

589. When addressing the Costs Estimations submitted by the Respondent on 2 June 2017, the Claimants underscore in their Introductory Notes that neither they nor the Respondent base their case on actual costs in the post-expropriation period. For the Claimants, the Projects' pre-expropriation business planning documents are the best reflection of the expected costs in the but-for scenario, combined with annual industry inflation rates as their experts have done. The Respondent uses the same sources, but then (i) increases the figures by applying inappropriate inflation and exchange rate assumptions, and (ii) adds "additional" costs categories that do not appear in the pre-expropriation models. The Claimants observe an evidentiary deficiency in the Respondent's approach, because only about 11.5% of the costs in Venezuela's valuation are supported by documents reflecting alleged actual expenses that the post-expropriation Projects have incurred.

590. The Claimants recall that the cost projections in the CEM included the following categories: CAPEX: G&A, Upstream Facilities, Upgrader Facilities; OPEX: Upstream, Upgrader, G&A, Third Party. The Respondent has changed the figures relating to these categories. First, the Respondent inflates all costs in assuming that certain percentages will be incurred in Bolivars and then inflates these costs using domestic consumer inflation rates in Venezuela, before converting them back into US$ using the lowest existing official exchange rate. However, the Respondent does not indicate the exchange rate used or obtained for any particular cost item. Additionally, the Respondent ignores that more favorable exchange rates had existed in Venezuela over the period since the expropriation in 2007 and were accessible if only reasonable management techniques had been used.

591. Moreover, the Claimants object that the Respondent replaced certain costs included in the CEM with much higher figures based largely on Mr. Figuera's unsupported testimony, specifically drilling costs, turnaround costs, well repair costs (and coker repair costs at Hamaca). Above these estimations of its own making, the Respondent added massive "additional" cost categories, like: CAPEX: Drilling, Turnarounds, Others; OPEX: Well Repairs, PREMs, Catalysts Unit 16, Tank 12 Repairs, Solids Handling Facility Trucking; Others. These purported additional costs remain largely unsupported, although the Projects must still have available detailed records of any specific expenditure in the post-expropriation period. In any event, these costs are unreasonable, hugely inflated and indicative of operational deficiencies. The purpose of the Respondent's option to rely on financial statements is unclear. They have not been part of and are inconsistent with the Respondent's pleaded case, they do not represent the but-for scenario and are incomplete and insufficiently detailed to be useful. When taking the example of costs for electricity generation at PetroPiar and the costs for hiring third parties to truck coke to the coke pile, the Respondent ends up with double counting because it does not subtract related costs already included in the AEM (also PAM).

592. In conclusion, the operating costs and capital expenditures shown in the Claimants' 20 March 2017 tables and based on the Composite Economic Model (CEM) for Petrozuata, and on the Ameriven Economic Model (AEM) for Hamaca remain the only principled and reliable assessment of costs in the but-for scenario.

2. *The Respondent's Position*

a. Overview

593. In line with its preference for an *ex ante* valuation, the Respondent submits that based on its experts' analysis, costs related to the Petrozuata Project are reflected in the ConocoPhillips Composite Economic Model (CEM) in 2006 U.S. dollars, escalated (i) to the date of valuation, 26 June 2007, using the oil field and gas field machinery PPI index, and (ii) from the valuation date forward, using a composite inflation index calculated as the weighted average of long-term US

inflation projections (85%) and the rate of change of their 2007 WTI price forecast (15%). Two exceptions are the inclusion of well costs consistent with the Project's experience and a US$ 20 million cost for an EOR pilot project in the Reserve Area. As with Petrozuata, in an *ex ante* valuation of Hamaca as of 26 June 2007, the Respondent's experts have proceeded in following the same method, however taking as the basis of their projections the estimates set forth in the contemporaneous model used by Petrolera Ameriven (PAM), in 2006 U.S. dollars, escalated to 26 June 2007. The Respondent further notes that lower volumes of EHCO and CCO production had been projected; therefore, its costs in the *ex ante* valuation are actually lower than the costs projected by the Claimants.

594. The Respondent objects to the Claimants' reliance on the *Mobil* cases for the proposition that pre-nationalization budgets should be used for projecting future costs. In both cases, the tribunals derived the value of cash flows in using *ex ante* information as of June 2007. There is no basis for doing so in an *ex post* valuation. The Claimants also argue that in the first phase of this arbitration, the Respondent's experts accepted the LECG projections regarding costs, noting that the Parties were not differing substantially with respect to costs. This was so because in the first phase of this case, the Respondent and its experts were conducting *ex ante* valuations, based on information available as of June 2007, thus using the same base of information as the Claimants did. In an *ex post* valuation, estimates for the future are no longer necessary, since the categories of costs and the actual costs incurred both are now known. Under those circumstances, it is wholly inappropriate to substitute projections made ten years ago for the figures resulting from actual experience. For example, as of June 2007, the costs associated with the periodic turnarounds had to be estimated on what was known at the time. Now, in 2016, not only the numbers but also the scope and the costs of those turnarounds are known.

595. Further, the Claimants seem to forget the undisputed fact that as oil prices rose, so did costs, as reflected in the HIS CERA Upstream Operating Cost Index (UOCI) and the HIS CERA Upstream Capital Cost Index (UCCI) upon which the Respondent's experts rely. The Claimants also do not take account of the fact that Venezuela has suffered high rates of inflation since the nationalization, with limited offsetting devaluations of the Bolivar. During the period from mid-2007 to January 2010, inflation ran at the rate of 30.3% per annum, meaning an overall increase in prices of 89.4%. At the official exchange rate, which remained at Bs. 2.15 per US dollar during that entire period, the US dollar equivalent of those costs incurred in Bolivars rose by the same percentage.

596. The Claimants do not seem to understand that while they should benefit from higher revenues resulting from oil price increases in the historical period, they should not remain immune from higher costs. They also object to the *post hoc* nature of the Respondent's current claims. Contrary to their allegations, these costs were reasonable and necessary and supported by evidence. The Claimants have failed to show that these costs would have been avoided if only a ConocoPhillips subsidiary had remained a project participant.

597. The Respondent does not believe the Claimants when they contend that the cost for the 2011 turnaround at Petrozuata (US$ 236 million in 2011 US dollars) was significantly higher than that incurred in the 2005 turnaround, which cost about US$ 23 million (in 2005 US dollars). Mr. Earnest, the Claimants' expert, fails to grasp the fact that all of the upgraders at the Jose Complex have experienced much higher costs for the post-nationalization turnarounds than those experienced prior to the nationalization, while they have been managed by the foreign partners (with the exception of those at PetroAnzoátegui). At the PetroCedeño (Sincor) project, the maintenance activities during the first turnaround in 2004 cost US$ 71.6 million and involved interventions at 287 equipment items, while the maintenance activities during the 2008 turnaround (managed by Total) cost US$ 266 million and entailed intervention at 913 equipment items. Similarly, at the PetroMonagas (Cerro Negro) project, the costs went up from US$ 27.4 million in 2006 to US$ 393 million in 2012, while the number of equipment items concerned was 84 in 2006 and 1,215 in 2012. At Petrozuata, the first turnaround in 2005 involved the intervention at 385 equipment items, while the second turnaround in 2011 entailed the intervention at 752 equipment items. In short, the post-nationalization turnarounds have been more extensive and more expensive at all of the upgraders.

598. The Respondent also disagrees with the Claimants with respect to the solids handling facility, when they argue that the costs associated with (a) the 2009 fire and repairs and (b) transporting coke to, and handling of the coke at a new storage location following the fire were unreasonable, contending that the facility could be repaired for US$ 47 million. This is based on confusion, as the Respondent was referring not to the full costs, but to the uninsured amount of US$ 45,263,789. After repair, the facility operated at less than full capacity, resulting in higher costs. The Claimants acknowledge the costs that have been incurred by PetroAnzoátegui, as well as PetroPiar, in trucking the coke to the alternative storage locations and managing the huge coke pile, but they claim that a prudent and efficient operator would not have engaged in such conduct. This argument ignores that upgraders produce large volumes of coke in the coker units, which needs to be removed from the pits quickly; when the solids handling facility was not available, additional costs were incurred for trucking the coke away. The Claimants assert that the costs were fabricated by the Respondent. They were not. The Respondent established that (a) the costs for the fire repairs in 2009, net of insurance proceeds, were US$ 37,531,649, and (b) the trucking and handling costs, net of insurance proceeds, through 2014, have been US$ 273 million.

599. The Respondent further notes that the Claimants also appear to challenge the costs for wells and well pads. In the first phase of this case, Mr. Figuera stated that the experience at Petrozuata was that single-lateral wells in 2009 cost approximately US$ 2.9 million, and multilateral wells about US$ 3.5 million. The Claimants did not cross-examine him on this point. At the 2010 Hearing, Mr. Lyons also confirmed that in its own presentation in October 2006, ConocoPhillips was estimating a cost for US$ 3.5 million per well for drilling costs. The Claimants have no basis for disputing the costs associated with upstream activities, which are in line with historical costs. Dr. Strickland did not comment on the costs associated with wells or well pads.

600. The Respondent recalls that at Petrozuata, additional firefighting systems have been installed. Through 2014, US$ 10,732,625 have been spent. As Mr. Figuera explained, the remainder of the US$ 100 million in estimated costs associated with the upgraders will be spent in the coming years. The upgrader at Petrozuata, like the other upgraders in the fields, are required to install electricity generating equipment in order to free up the grid for the population. That project, with an estimated cost of US$ 142 million (in 2010 US dollars) has been deferred pending the completion of the gas line to the José Complex. The Claimants object that these costs were not included in the pre-nationalization business plans or models. This underscores the absurdity of relying on those plans in an *ex post* valuation.

601. Turning to Hamaca, the Respondent begins by noting that the Claimants argue that the turnaround costs at PetroPiar are significantly higher than those projected as of June 2007. They further claim that the Respondent adds so-called PREM maintenance costs of US$ 1 billion that were never contemplated in the Project's Economic Model. But the fact that such costs have not been contemplated in 2006 does not disqualify those costs from inclusion in the *ex post* valuation analysis. To the contrary, the fact that those costs were and are considered necessary by the Project partners underscores the folly of relying on outdated plans and models as a basis for an *ex post* valuation.

602. Mr. Earnest's comparison between the costs for turnarounds before and those which occurred since is misleading, even more than it was for Petrozuata. Mr. Earnest recognizes that the 2006 Hamaca upgrader turnaround is being described as a partial turnaround. The Project partners referred to it as a "Pit Stop" and it cost only US$ 29 million (in 2006 US dollars). Mr. Earnest ignores economic realities. First, Solomon Associates, a well-known firm in these matters, has reported that the cost of turnarounds averaged a 15% increase each year from 2000 to 2008. Second, during the period between 2006 and 2009 (when the first real turnaround occurred) Venezuela experienced inflation at an annual average rate of 26.3%. Even based on Mr. Earnest's estimates, a turnaround in 2009 would have cost US$ 150 million. That is the figure that should be compared to the US$ 223.7 million incurred in implementation of the turnaround in 2009.

603. In 2006, the partners estimated the magnitude of the June 2008 turnaround as 5-10 times greater than the 2006 turnaround. In fact, the 2009 turnaround involved the intervention at seven times the number of equipment items as had been tested during the 2006 pit stop. On this basis, one would obtain a base figure of US$ 145 million, which will become, when accounted for industry and country inflation, a cost for a full turnaround at PetroPiar in 2009 of US$ 256 million. That is higher than the amount actually incurred. The cost for the combined PRAC/turnaround in 2012 of US$ 313.2 million is also in line with these estimates.

604. Mr. Earnest's opinion should also be compared with his May 2009 report in the ICC *Mobil* case, where he recognized the upcoming cost for the turnaround at PetroPiar and thought that the

costs for the smaller turnaround at Cerro Negro could be raised above the expected US$ 100 million. The maintenance activities during the 2012 turnaround at PetroMonagas cost US$ 393 million. In comparison and given the relative size and complexity of the PetroPiar upgrader as compared with that of PetroMonagas, the costs of the major maintenance work at PetroPiar can hardly be considered unwarranted.

605. The Respondent also notes that other significant costs actually incurred by PetroPiar were not included in the pre-nationalization economic model and not mentioned in the first phase of this case. It was only in 2011 that Chevron and CVP made the determination that the upgrader would require annual major maintenance activity in the form of the PREM programs that commenced in 2012 and will run through 2022. That decision resulted from the detailed assessment of the upgrader following its continued poor performance despite the extensive 2009 turnaround. To date, PetroPiar has incurred US$ 357 million in connection with the PREM activities conducted annually between 2012 and 2015. The incidents that occurred with Tank 12 required repairs that could not appear in the 2006 model.

606. The installation of electrical generating capacity was equally not included in the 2006 economic model. This issue arose in November 2009, when the Government made the decision to require PDVSA and its affiliates to reduce their reliance on hydroelectric power in light of the needs of the communities in which they operate and the nation-wide shortage of power. In accordance with Decree 6.992 PetroPiar has installed 40 megawatts of capacity at a cost of approximately US$ 95 million in a project that was headed by Chevron. The Claimants and Mr. Earnest claim that these costs are too high, but the documentation submitted by the Respondent cannot seriously be contested.

607. In sum, the Respondent submits that there is no basis for excluding costs that have been and will be incurred in the post-nationalization period simply because those costs were not contemplated prior to the nationalization and not included in the modeling that was carried out at that time. The Claimants have not shown that if their employees had conducted the operations, those costs would have been avoided.

b. The Respondent's Cost Estimations

608. The Respondent agrees with the Claimants that neither Party has based its "but-for" case on actual costs incurred by the Projects in the historical period. For the Respondent that is because many of the costs incurred resulted from the fact that the new mixed companies, operating under the 2001 Hydrocarbons Law, have been authorized to produce and sell blended crude oil. In contrast, the Projects operating under the Association Agreements were only authorized to sell upgraded products. Therefore, certain costs in the historical period are to be excluded, just as certain revenues (from blended sales) have to be excluded.

609. For the Respondent, the assumption that costs in the "but-for" world would remain the same for more than three decades as they were projected in a 2006 model is invalid for the Projects as they would be invalid for any project, but especially for a megaproject in the oil industry. It is indisputable that large costs items were not included in or contemplated by the 2006 models, for Petrozuata (CEM) as for Hamaca (AEM or PAM). Such a position is nonsensical and defeats the basic purpose of an *ex post* analysis. If the Claimants argue that account be taken of what has actually happened in the field, they have a heavy burden of establishing the inappropriateness of the actual costs incurred. They have not come close to meeting that burden. There is no doubt, for instance, that substantial additional costs were incurred for items such as turnarounds and fire-fighting improvements, which make the Claimants' position of ignoring all these costs irrational. The overwhelming majority of the cost figures the Claimants say are unsupported are in fact based on the starting figures in the CEM and the AEM, but then provided with information on inflation and exchange rates. The rest of the costs the Claimants say are unsupported are in fact attributable to drilling and well repair costs that are not only supported by Mr. Figuera and Mr. Patiño but also corroborated by the Claimants' own evidence in the record.

610. The Claimants simply brush aside any cost not included in the 2006 model on the unwarranted assumption that it would not have been incurred in the but-for world. The record shows, for instance, that the Projects incurred significant costs relating to the upgrader maintenance, including the Petrozuata 2011 turnaround, costs that would have been the same if ConocoPhillips had remained in the Projects. Similarly, the post-nationalization incidents that resulted in the required repairs to the Solids Handling Facility and the trucking and handling of solids were not contemplated in the 2006 model; the associated costs would have been incurred regardless of whether ConocoPhillips was a Project participant.

611. With respect to inflation, the Respondent do not share the Claimants' position that a U.S. inflation index should apply to both US$ and Bolivar costs in the CEM, even though Venezuelan inflation was far higher than inflation as captured in that U.S. index. There is nothing inappropriate to take account of the currency proportion involved in OPEX (70% bolivars/30% US$) and CAPEX (30% Bolivars/70% US$). These percentages were included in Mr. Figuera's testimony and have never been contested[403]. A large portion of costs incurred in Bolivars were for labor-related expenses and such costs are correctly inflated on the basis of domestic, consumer inflation rates in Venezuela. When the Petrozuata 2011 turnaround took place, it was after almost two years of Venezuelan inflation cumulating in a rate of 51%; the impact of such high inflation cannot be measured correctly when turning costs in US$ in order to subject the expense to much lower US inflation rates.

[403] Figuera, Third Supplemental Testimony, 15 August 2014, para. 59. The Tribunal notes that the other references given by the Respondent do not contain this information.

612. The Claimants contend again that there were multiple legal exchange rates available, but they never explain how this could have been done when every Exchange Agreement prior to Exchange Agreement No. 35 (issued in March 2016) provided that US$ obtained in the sale of hydrocarbons could only be exchanged at the official rate (CADIVI), which was Bs. 2.15 per US$ until 7 January 2010, Bs. 4.3 per US$ from 8 January 2010 until 7 February 2013, and Bs. 6.3 per US$ from 8 February 2013 until 9 March 2016. Exchange Agreement No. 35 applied only to PDVSA, its subsidiaries and mixed companies.

613. The Claimants may say that they inflate costs using "annual industry inflation rates", but what they actually do is that (a) they have converted all costs in the model that are in Bolivars into 2006 US$, (b) added these additional US$ costs to the existing US$ costs retained in the model to obtain total costs in US$, and then (c) inflated the total costs using a US inflation index (the US Producer Price Index for oil industrial commodities). That is an exercise that completely ignores Venezuelan inflation, as if the Projects would be operated entirely in the United States and not in Venezuela.

614. The Respondent also recalls that it was the Claimants who insisted on the production of financial statements of the mixed companies. These statements reflect the actual costs incurred by the Projects in the post-nationalization period, even if one were to exclude the costs related to blending. Further, many of the Claimants' comments on the financial statements make little sense. Thus, when production remained relatively flat, this did not have as a consequence that costs behaved the same way, which would ignore the enormous inflation caused by the increase in oil prices, particularly in the summer of 2008.

3. *The Tribunal's Findings*

a. Preliminary observations

615. The evidentiary situation with respect to costs is deplorable and surprising. Indeed, if there is one category of items that should easily be documented, it should be the costs that have at least passed the stage of invoicing and payment that can be shown by documents. The Tribunal's record is grossly incomplete. The Respondent, who bears the main burden of proof in respect of the Projects' costs, has presented as its key witness Mr. Figuera, who left the Projects so early that he could not offer to the Tribunal information based on personal knowledge of the factual background of the many cost items debated between the Parties. Witness Figuera provided about 5000 pages of cost documents he asked the Projects to compile; he did not proceed himself with the selection, nor did he provide any indexing[404]. The valuation experts from both sides take the defense of their

[404] TR-E, 2017 February Hearing, Day 8, p. 2397:7-2398:1.

respective clients in supporting their cost assumptions, not aware of how far away they are from reality. Despite the Respondent's repeated designation of Mr. Patiño as its witness, the Tribunal recalls once again that Mr. Patiño has been introduced into this proceeding as an expert; he cannot give testimony on facts and costs relating to the Projects. It is equally manifest that the Respondent cannot, before this Tribunal, characterize as testimony statements delivered by an individual appearing as a witness in another proceeding, even if the fact pattern in that case – the *Mobil* arbitrations – presents some resemblance to two of the Projects to be considered by this Tribunal[405]. The documentary evidence is based in part on projections dating from before the expropriation and disconnected from considering the potential of costs that may have characterized the historical life of the Projects, including the usual price increases occurring when business is flourishing and the economy growing. In addition, actual costs are very often alleged with poor documentary support.

616. Faced with the difficulties caused by evidence presented by pieces that cannot be put together to provide a clear picture, the Tribunal will consider the various cost items in determining first whether a specific claim for costs is valid as a matter of principle, and then examining whether the actual costs claimed are supported with reliable evidence showing that such costs did or may be incurred in the future in amounts that can be considered as realist and fair.

617. The Tribunal also notes that costs represent claims the Respondent invokes in order to reduce the estimation of cash flow and ultimately the revenue accruing to the Projects' partners and the Claimants in this proceeding. Therefore, the Tribunal will not allocate costs that have not been claimed although it may appear as reasonably certain that they have occurred or may occur in the future.

618. The Parties adopted the usual distinction between Capital Expenditures (CAPEX) and Operating Expenses (OPEX). The Tribunal follows the same order and the same categories that the Parties have adopted. The analysis of their respective positions is based on their briefs, including the evidence supplied, and on their respective cost assessments filed with the Tribunal on 20 March and on 2 June 2017.

619. Both Parties accept that the Composite Economic Model (CEM - LECG-085) serves as a plateau document from which to start. The Petrolera Ameriven Hamaca Economic Model (quoted either as AEM or as PAM) is equally important for that Project (LECG-129). The difference between the Parties consists in that the Claimants refer to these documents dated from the second half of 2006 exclusively (subject to yearly inflation), whereas the Respondent is (i) updating the figures

[405] Cf. the Respondent's Cost Estimations in respect of Petrozuata, p. 15, 59/61, and for Hamaca, p. 16, 57, 86/88, where it is argued that documents on the record of this Tribunal are supported by the testimony of Mr. William Cline of Gaffney delivered in the *Mobil* arbitrations (R-550, R-551). The fact that Mr. Cline appeared in the *Mobil* arbitration as the Claimants' witness does not change the fact that he has not been introduced in this proceeding as a witness.

contained therein to what it assumes as actual costs and (ii) adds further costs experienced in the Project's life but not yet projected in the CEM. The figures relating specifically to Hamaca are contained in the PAM. Those that are relevant for the Tribunal for the present examination also appear in the CEM, albeit sometimes with small and insignificant differences. The Tribunal refers primarily to the CEM with the effect that the rounding of numbers is the same for both Projects[406].

b. The difficulty to identify past and future costs

620. The Tribunal accepts that the Claimants have certainly more difficulty than the Respondent in having access to pertinent information on actual costs. However, the Claimants have a well-known reputation in the oil industry and the expertise to provide useful information about costs attached to projects for oil production. They also know perfectly well that prices for expenses over the lifetime of a project, after having been retained in models in 2006, certainly will go up in the future. They also know that expenses may occur in the future that have not been and could not be modeled in 2006. They cannot rely on the 2006 models and tell the Tribunal that these assumptions were valid for 30 years, even if associated to future inflation indexes that are rarely accurate when compared to actual market values.

621. The Respondent is correct when it states that certain costs in the historical period should be excluded because they are related to the production and sale of blended oil, which was not allowed under the Association Agreements. However, the Tribunal also notes that the Respondent does not assist the Tribunal in identifying the portion of such costs that should be taken out of the overall cost-estimation. This is the case, for instance, for part of the costs for turnarounds. The Respondent accepts that this operation takes more time subsequent to the expropriation and since blending became permitted[407]. But the Respondent does not explain the cost-portion that should be removed from the turnaround budget based on the same experience and logic.

622. In relation to the update of amounts mentioned in the CEM to actual levels of costs, the Respondent uses inflation indexes and it relies on what it considers as the pertinent exchange rate. Both of these factors are applied to what is called a "split" between costs incurred in Venezuelan Bolivars and US dollars, in a proportion of 30:70% for CAPEX and the reverse proportion for OPEX. The Tribunal notes at the outset that these elements of accounting are approximate. There is no evidence upon the actual occurrence of this "split", whether in respect of several categories of costs or in respect of certain more specific items. Mr. Figuera provides these figures without any explanation or support on any documents or testimony[408]. Further, inflation rates applicable at the

[406] Cf. CEM, p. 41-43/pdf (Petrozuata), 244-246/pdf (Hamaca).

[407] Cf. TR-E, 2017 September Hearing, Day 16, p. 4569:14-22 (Preziosi), 4571:6-10 (King); Day 17, p. 4854:10-17 (Preziosi).

[408] Cf. Figuera, Third Supplemental Testimony, 15 August 2014, para. 59.

time in Venezuela are quoted but not supported by evidence. Moreover, such rates are applied to a great number of costs items without determining whether the 30%:70% split for Bolivars is of actual pertinence in respect of each item.

623. The same observation applies to the split the Respondent and its valuation experts have made between portions of expenses incurred either in Bolivars or in US dollars. The documentary evidence available to the Respondent would undoubtedly allow identifying whether, and if so to what extent, such splitting did actually take place. Additionally, evidentiary support would also have revealed whether the 30:70 split adopted by the Respondent's experts did apply in this proportion throughout the whole period between 2007 and 2015 or 2016, or whether certain costs initially incurred in one of these currencies were not shifted towards expenses made in the other currency in case the inflation or other macroeconomic influences did render such shift advisable.

624. The Tribunal finds that a split that attributes to costs incurred in Bolivars a substantially higher percentage in OPEX than in CAPEX is reasonable given that the documents on the record suggest that a major portion of the costs related to OPEX were incurred in Venezuela in local currency. Indeed, when observing the division adopted in the 2006 models between the parts of certain cost items that are accounted for either in US$ or in Bolivars, it appears that for Petrozuata (unlike Hamaca) the Project's participants had modeled the applicable currency split differently[409], sometimes adopting higher Bolivar portions than the 30% that have the preference of the Respondent in respect of CAPEX, sometimes counting with a greater portion than the 30% applicable to the US$ portion of OPEX. The Tribunal notes that different cost items had their individual cost split. It would be an almost impossible task to determine an exact split taking each item and subitem. However, the Respondent provides for a split[410] that is not contested by the Claimants and that in the overall analysis of the available documentation appears as reasonable. Therefore, the Tribunal will adopt such a split.

625. The Tribunal understands that inflation indexes are reflecting impact on prices based on the currency to which they are tied up. The difficulty in the present matter results from the fact that a number of items on costs imply US$ and Bolivars, when these two currencies are applicable to specific parts of a same cost item. Therefore, to the extent that this is relevant, inflation must be determined separately for each currency. In this respect, the Tribunal approves the Respondent's position that the inflation occurring in Venezuela's market must be taken into consideration at its own rates when expenses in Bolivars are applicable. The Tribunal does not accept the inflation rates known on the US market that have been put forward by the Claimants' experts[411].

---

[409] Cf. CEM, p. 41-43/pdf (LECG-085).

[410] Cf. Brailovsky & Flores, Consolidated Expert Report on Valuation, 17 November 2016, paras. 154-181, 300-305.

[411] Cf. Abdala/Spiller, Consolidated Update Report, 17 November 2016, paras. 61/62, 153.

626. The Respondent introduces a further adjustment based on the assumption that 30% of total operating costs (OPEX) are variable, with the effect that the EHCO production projected by the CEM should be corrected by 30% based on the EHCO production volume estimated by the Respondent. This latter volume being lower, the corresponding OPEX should be reduced accordingly[412]. The Tribunal does not adopt the Respondent's position in respect of EHCO production, based on Mr. Patiño's conclusions. Therefore, it does not follow the Respondent's and its experts' calculation based on this assumption.

627. The documentary evidence, if it had been filed with the Tribunal, would also have allowed to identify the applicable exchange rates. The record before the Tribunal contains a great number of invoices where the official rate was applied. When this was the conduct adopted within the Projects, one would expect the Claimants' valuation experts to demonstrate with convincing evidence that this conduct was actually inappropriate since it could be overturned. In this respect, the Claimants' experts offer nothing more than hypothetical submissions on the availability of more favorable rates through "exchange rate management"[413]. No demonstration is provided on how the experts' "private manager" would have optimized each cost item more favorably than the actual costs incurred. The experts had to admit that their reliance on the "parallel market" raises a legal issue[414]; they could not remove the objection of promoting illegal action on the black market[415]. The Tribunal does not agree with the Claimants when they argue that the Respondent was "converting back" into US$ expenses initially incurred in Bolivars and subject to Venezuelan inflation rates. The Tribunal understands that the Respondent has tied the Bolivar portion of a cost item to the local inflation rate (running since 2006, base year for the CEM), and added the resulting amount to the remaining US$ fraction in applying the pertinent exchange rate, both elements being included in its experts' CAPEX and OPEX inflation index.

c. Drilling

628. The Tribunal takes this first item on the list of CAPEX, which is one of those matters where the lack of evidence and explanations is truly regrettable. The Respondent relies on the projections of Mr. Patiño, including its splitting of drilling new wells and repairing existing wells year by year.

[412] Cf. Cost Estimation for Petrozuata, p. 14, 43/44, 48, 52/53, 56/57, and Hamaca, p. 15, 55, 59/60, 64/65, 69/70, 74; Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, paras. 308, 315. The Respondent refers to Witness Figuera, Testimony, 20 July 2009, footnotes 28, 31; Third Supplemental Testimony, 15 August 2014, paras. 59, 97, where it is stated that 30% of OPEX are variable and related to the volume of CCO production.

[413] Cf. Abdala/Spiller, Consolidated Update Report, 17 November 2016, paras. 63/64, 148, 153-162. In their document serving as evidence rates are recorded, for Secad II, as from 24 March 2014, and for Simadi between 2 December 2015 and 3 July 2016 (CLEX-095); such presentation is manifestly incomplete and useless for an assessment to be made by the Tribunal.

[414] Cf. TR-E, 2017 March Hearing, Day 13, p. 3865:10-3866:15 (Abdala).

[415] Cf. Respondent's 2017 Post-Hearing Brief, para. 171.

The numbers he thus determined are linked to his conclusions on decline rate and other specificities that made him believe that both Projects will not successfully reach the targets for production of EHCO and CCO. The Tribunal's findings are that this approach is not appropriate and results in projections far removed from the real production and upgrading capacity of each of the Projects. Therefore, the Tribunal cannot take the numbers and their ventilation per year as a basis for determining the costs for drilling.

629. The Respondent's reliance on Mr. Patiño's figures permits nonetheless the identification of the total number of wells to be drilled which have been retained by Mr. Patiño on the basis of the initial projections reflected in Mr. Figuera's testimony. The Tribunal has explained that this total number of wells, as determined at the outset of the Projects, are very close, if not identical, to those that can be found in the 2006 models. In light of the Respondent's position as to the fixing of the costs of drilling, the Tribunal does not have to develop an approach of its own in providing for more wells to be drilled and to be accounted as CAPEX.

630. The Tribunal's preference would clearly be to rely on evidence of actual costs of drilling as experienced by the Projects. The Claimants are correct in assuming that such information would have permitted a more accurate assessment of the *ex post* valuation in this respect. The Tribunal will therefore have recourse to inflation rates in order to update costs for drilling to the best of its knowledge based on its record. It finds comfort for so proceeding in the position taken by both Parties, as the Claimants and the Respondent rely on inflation indexes to explain how costs are moving forward, albeit showing considerable disagreement in respect of the indexes to be taken as pertinent.

631. The Respondent's position is defined through a list of new wells, re-drills and replacement wells to be provided each year between 2007 and 2016[416]. For each year, the total amount of costs is given in US$. No specific evidence is mentioned, except the reference to Mr. Patiño's conclusions[417], which have been based on the instructions in respect of the well's decline he received and not on the true capacities of the Projects. The Respondent's valuation experts reproduce the same figures. They do not use Mr. Figuera's figures listed in his first Witness Statement[418]. On this basis, the Tribunal cannot reach any conclusion. Costs for new wells, repaired wells or re-drills are

[416] Cost Estimations for Petrozuata, p. 19, and Hamaca, p. 26.

[417] Appendices 81 and 84 (Appendices 89 and 90 are again not considered). Mr. Patiño did not provide expertise on costs relating to wells; he makes comparisons of costs without giving numbers. He mentions that in the *Mobil* case, an expert told that repair of a well would cost US$ 360,000; cf. Expert Report, 18 August 2014, footnote 12; Consolidated Expert Report, 17 October 2016, footnotes 179, 306. This information relates to repair well only and it is unreliable and no evidence; the Respondent's experts use the same number, without further verification. The Respondent cannot allege well repair costs "based on Mr. Patiño's expert report" (Cost Estimations for Petrozuata, p. 59, and Hamaca, 25/26); this report does not contain such information based on Mr. Patiño's knowledge.

[418] Testimony, 20 July 2009, para. 29, p. 19.

different for each category and need to be identified and translated in actual amounts. Costs for wells have been debated between the Parties, but no useful conclusion can be derived from this debate. On the other hand, the costs projected in 2006 have not been contested as they were retained at that time, but simply considered in need of updating to what can be accepted as correct in actual terms and for the future[419]. Therefore, the Tribunal will take the cost items for drilling as contained in the models and – in the absence of evidence on actual real costs – bring them forward through the relevant inflation indexes. In addition, the Tribunal notes that the same conclusion applies to costs for well repairs that the Respondent added to Petrozuata's and Hamaca's OPEX costs as a separate item, allegedly based on Mr. Patiño's expertise although, manifestly, Mr. Patiño's report does not contain such information, which would not be based on evidence anyhow. Well repair costs not being identified by evidence, they remain included in the costs for upstream based on the CEM from where the Respondent suggested to have them removed.

632. The Tribunal notes that the initial selection of each year's portion of new wells or replacement wells is uncertain. In the absence of evidence on the real sequence of drilling during the historical period, which only the Respondent could provide, the projections of 2006 are nevertheless a good indicator about the moving forward of the wells setting, which is at the basis of the EHCO production for the years following the expropriation. A simple addition of a total of numbers of wells drilled over the life-time of the Project and then recalculated by averages per year appears considerably more uncertain than the sequence of drilling as projected in 2006. In respect of Petrozuata, a further element of confirmation can be added: the sequence of drillings presented in the CEM corresponds for years 2011 to 2022 exactly to the numbers of wells to be added as they were presented by Mr. Figuera in his first Witness Statement. A big difference appears for year 2023, but the Tribunal will not retain drilling costs in that year, immediately before the Project's production drops seriously. For the years 2007 to 2010, the Tribunal will retain the figures of the CEM. In light of the convincing presentation in the CEM for Petrozuata, the Tribunal will also retain the corresponding figures for Hamaca. For purposes of this calculation, the Tribunal has applied the split between Bolivars and US dollars as pertinent at the time, by using the CAPEX inflation index applicable to each currency.

[419] For instance, an amount of US$ 3.5 million has been mentioned several times, but it remained unclear whether this sum includes just the drilling, or also separate equipment, roads and well pads. Cf. Witness Lyons, TR-E, 2010 Hearing, Day 5, p. 1195:15-1197:17; 2017 February Hearing, Day 7, p. 1959:15-1961:11.

Costs for Drilling						
	Petrozuata			Hamaca		
	CEM	CAPEX inflation index	US$ MM total	CEM	CAPEX inflation index	US$ MM total
2007 ½	49,100	1.19	58,429	7,977	1.19	9,493
2008	54,011	1.42	76,696	60,259	1.42	85,568
2009	55,281	1.49	82,369	53,432	1.49	79,614
2010	43,718	1.28	55,959	7,001	1.28	8,961
2011	33,135	1.45	48,046	36,237	1.45	52,544
2012	46,312	1.59	73,636	58,473	1.59	92,972
2013	50,480	1.56	78,749	65,665	1.56	102,437
2014	47,137	1.89	89,089	68,980	1.89	130,372
2015	48,748	2.70	131,620	59,367	2.70	160,291
2016	55,085	1.03	56,738	43,050	1.03	44,342
2017	45,888	1.53	70,209	55,729	1.53	85,265
2018	55,334	1.33	73,594	60,291	1.33	80,187
2019	59,501	1.32	78,541	38,515	1.32	50,840
2020	62,234	1.33	82,771	42,060	1.33	55,940
2021	78,581	1.34	105,299	40,085	1.34	53,714
2022	88,033	1.36	119,725	55,784	1.36	75,866
2023	0		0	61,975	1.39	86,145
2024	0		0	67,525	1.41	95,210
2025	0		0	67,405	1.43	96,389
2026	0		0	70,455	1.46	102,864
2027				147,615	1.48	218,470
2028				70,500	1.51	106,455
2029				69,010	1.53	105,585
2030				66,890	1.56	104,348
2031				20,795	1.59	33,064
2032				0		0
2033				0		0
2034				0		0
2035				0		0
2036				0		0
1	2	3	4	5	6	7

d. Turnarounds

633. The Respondent states rightly that post-nationalization turnarounds were more expensive than those operated before the nationalization, and in particular the small sized turnarounds in the first years of the Projects. The reason for this is not only based on price increases. The other and maybe more important reason is the significant increase in the number of equipment items that were examined.

634. Nonetheless, the Respondent cannot simply state that the Projects would have had higher costs if no nationalization had occurred. The comparisons that the Respondent offers with other sites are interesting but not conclusive as long as they are not accompanied by information about

the size of the site, the actual duration of the turnarounds, the volumes of EHCO and CCO treated and many other factors necessary to render such analysis useful. The Respondent added to the uncertainty when submitting that since 2009, turnarounds needed more time, basically 60 days, when the Projects produced significant volumes of blended oil[420]. The Respondent did not specify the period of time that was added for this reason. The impact on costs has not been measured. Nonetheless, such a fact cannot be ignored by the Tribunal.

635. The Respondent insists that the Hamaca turnarounds operated by the mixed companies were unsuccessful because they did not improve the OSF. In light of the undisputed objective of increasing OSF of any turnaround, one may wonder how costs can be claimed by the Respondent who is asserting simultaneously that those turnarounds have not reached their purpose. The Respondent's position is manifestly inconsistent. The Respondent's claim for turnaround costs does make sense only under the assumption that the turnaround's purpose of improving the OSF has been fulfilled, and that this reflects the actual situation – contrary to the Respondent's unsupported assertion of low OSFs resulting from the turnarounds conducted during the historical period.

636. The model sequence of regular turnarounds was every five years for Petrozuata and every four years for Hamaca[421]. This was a rule that could suffer derogations. For Petrozuata, the turnaround coming after 2011[422] would have been in 2015 but was deferred to 2016 and ultimately did not happen[423]. For Hamaca, the turnaround of 2009[424] was followed by a PRAC in 2012[425], and was thus scheduled for 2016, but equally differed. For both Projects, there is no schedule fixing dates for the next turnarounds. In light of these delays, it seems unlikely that the Claimants' schedule for future turnarounds (based on the CEM) for Petrozuata (2019, 2024) and Hamaca (2020, 2024, 2028, 2032) will become the real timeline[426]. The Respondent's dates are the same for

[420] Cf. TR-E, 2017 September Hearing, Day 17, p. 4854:10-17 (Preziosi). The record contains almost no information in this respect. Together with its Reply of 31 July 2017, the Respondent submitted an Annex 9 relating to the PetroPiar Turnaround of 2009, explaining the handling of tanks for the simultaneous production of Merey and Commercial crude (Question 3).

[421] Cf. CEM, p. 41-43/pdf (Petrozuata), p. 244-246/pdf (Hamaca); TR-E, 2017 March Hearing, Day 13, p. 3758:20-3759:1 (Spiller).

[422] Figuera Appendix 46, PetroAnzoátegui, Turnaround Report October 2011, 31 March 2012.

[423] Witness Figuera, TR-E, 2017 February Hearing, Day 8, p. 2401:13-2402:11; TR-E, 2017 September Hearing, Day 17, p. 4868:10-4869:2 (Preziosi).

[424] Figuera Appendix 76, Final Report on PetroPiar's 2009 Turnaround, 21 September 2010 (also C-584). This turnaround was initially planned for 2008; cf. Figuera, Supplemental Testimony, 26 January 2010, footnote 203; Lyons, Fifth Witness Statement, 13 October 2014, para. 30; Second Witness Statement, 30 October 2009, para. 48.

[425] Figuera Appendix 46, Final Report of the 2012 PRAC, August 2013.

[426] Claimants' Reply of 10 July 2017, p. 21 (Question 15); cf. also the debate with Counsel in TR-E, 2017 September Hearing, Day 17, p. 4872:20-4878:21.

Hamaca, whereas only one turnaround is scheduled for Petrozuata (2020)[427]. Given the unclear timing of turnarounds and the equally uncertain background of macroeconomic events that may have an influence on the taking of such an important decision to operate a turnaround, the Tribunal cannot allocate costs for turnarounds to any specific date or year, nor is it possible to refer to any specific inflation factor or exchange rate.

637. The record makes it very difficult to determine the number of days required for each turnaround. The 2011 turnaround at Petrozuata took 67 days, whereas 52 days had been estimated[428]. At Hamaca, the 2008 turnaround was scheduled for 48 days, and 36 days were envisaged in subsequent years[429]. The 2009 turnaround (October - early December) was completed in 55 days, whereas 49 days were planned[430]. The 2012 PRAC was planned for 45 days, but lasted 82 days[431]. These indications imply considerable uncertainty, which is compounded by the fact that the extensive actual blending renders turnovers longer. Based on the evidence in the record the Tribunal considers that 40 days would be a reasonable average duration for a turnover conducted under the operational scheme of the Association Agreements.

638. A further uncertainty results from the determination of the costs for turnarounds. For instance, the Respondent explained that the total costs for the 2012 PetroPiar PRAC was noted, not only in the final report on this operation, but also in the PetroPiar 2012 Audited Financial Statement[432]. The amount of US$ 313 million can indeed be found in this statement[433], in a text that reads as follows:

> Durante el año terminado el 31 de diciembre de 2012, las adiciones a las obras en progreso comprenden, principalmente, el costo de ejecución de los proyectos de perforación y completación de pozos de desarrollo, y construcción de facilidades por $334,950 miles (Bs1.440.283 miles) y proyectos asociados al mejorador por $439.068 miles (Bs1.887.988 miles), dentro los que se incluyen desembolsos relacionados con el PRAC por, aproximadamente, $313.000 miles (Bs1.345.900 miles).

The term "incluyen" and the numbers explain the accounting. The costs for the PRAC were included in the "proyectos asociados al mejorador". The respective amount of MUS$ 439.068, added to the costs for drilling and related items set at MUS$ 334,950, result in the total of MUS$ 774,018

[427] Cf. Respondent's Answers of 10 July 2017, p. 24-26 (Question 15).

[428] Figuera Appendix 82, Petroanzoátegui Upgrader Turnaround Report, 21 October 2012, p. 1.

[429] 2007 Budget Presentation, 12 September 2006, p. 3.

[430] Figuera Appendix 76, Final Report on PetroPiar's 2009 Turnaround, 21 September 2010, p. 5.

[431] Figuera Appendix 46, PetroPiar, 2012 Final Report on PRAC, August 2013, p. 13.

[432] Respondent's Post-Hearing Brief, para. 151 and footnote 241.

[433] CLEX-94, p. 236/pdf; TR-E, 2017 March Hearing, Day 15, p. 4474:17-20 (Kahale).

that is recorded in the account "Obras in proceso" for 2012 in the US$ section, and with the number of 3,328,271 in the Bolivar part[434]. In other words, the accounting did include the costs for PRAC in the overall figure for costs related to the upgrader, with the effect that the costs for the upgrader and the PRAC would not have exceeded the sum of MUS$ 439,068. The Respondent, on the other hand, accounted for both elements separately, and took the upgrader cost from the CEM (*i.e.* MUS$ 249,614) combined with the inflation index (*i.e.* MUS$ 285,259), resulting together with the PRAC (US$ 313 million) in a combined total of MUS$ 598,459. While the conclusion to be drawn from this observation may be uncertain at a more general level, the fact that is certain is that the numbers presented for the costs for turnaround (CAPEX) and Upgrader (OPEX) in the Respondent's Cost Estimation for Hamaca for the year 2012 are partially overlapping, in an amount of MUS$ 159,391, on the basis of the Financial Statement for that year.

639. The Parties are at odds about the acceptable amounts for costs of past turnarounds in the historical period and in respect of costs to be projected for future turnarounds. The usual course of a turnaround was to overturn prior cost estimations. The Petrozuata turnaround of 2011 had a budget of 597.7 MMBs, but finally needed 1110 MMBs[435]. The turnaround projected for 2015 was estimated at US$ 350 million[436]. The Hamaca 2009 turnaround had actual costs of 223.7 MMUS$, whereas 210 MMUS$ were budgeted[437]. The PRAC 2012 was estimated at 225 MMUS$, but ultimately needed 313 US$ million[438]. The Tribunal finds the evidence scarce[439]. In addition, blending made the turnarounds longer; the Tribunal is faced with the unresolved problem of converting this fact into its cost assessment.

640. The Tribunal will use as guidance the actual costs submitted through the reports on the Tribunal's record. Under the circumstances, it appears impossible to assume a specific currency

[434] CLEX-094, p. 234/235(pdf).

[435] Figuera Appendix 82, PetroAnzoátegui Upgrader Turnaround Report, 21 October 2012, p. 1, 7, 24, 29. At an exchange rate of 4.3, the total amount would be US$ 258 million. However, the Respondent claims US$ 236 million, based on Witness Figuera, Third Supplemental Testimony, 15 August 2014, para. 97, p. 69, also reported in Cost Estimation for Petrozuata, p. 33; Brailovsky/Flores Appendix 406, CAPEX (PZ). The pertinent amount has not been identified in the Financial Statements (CLEX-093).

[436] Witness Figuera, TR-E, 2017 February Hearing, Day 8, p. 2402:12-2403:16, 2411:8/9.

[437] Figuera Appendix 76, Final Report on PetroPirars' 2009 Turnaround, 21 September 2010, p. 5, 65.

[438] Figuera Appendix 46, PetroPiar, 2012 Final Report on PRAC, August 2013, p. 6, 59, 81, 113/pdf.

[439] The Claimants' expert Mr. Earnest (Consolidated Expert Report, 17 October 2016) observed that Mr. Figuera's expected maintenance expenditure did "greatly exceed" that required by a competent operator (para. 86), that the cost of US$ 335 million for Petrozuata's 2015 turnaround was "unreasonably high" (para. 88), and, in conclusion, that the costs provided in Mr. Figuera's testimony are "highly excessive" and are "unreliable" (para. 93).

split[440]. In respect of the costs for the 2012 PetroPiar PRAC, the Tribunal reduces the claimed amount of US$ 313 million by MUS$ 159,391, thus deducting the double payment claimed by the Respondent on the basis of the inflated amount taken from the CEM (MUS$ 285,259) added to the costs for the 2012 PRAC, which is overstated in light of the 2012 Financial Statement that records an overall expense for the upgrader of MUS$ 439,068, including the costs for the PRAC.

641. With respect to future turnarounds, the Tribunal is faced with two opposing positions, the Claimants referring to the model figures of the CEM, and the Respondent claiming never ending increases of prices. The financial projections for turnarounds in 2015[441] and 2016[442] seem excessive and in any event not supported by evidence of any weight or explanations. Overlaps with the accounting position devoted to upgrader maintenance are in the Tribunal's mind in light of the experience with the 2012 PetroPiar PRAC. The Tribunal retains as a reasonable prognostic the amount of US$ 300 million per turnaround (or PRAC), divided in equal parts per year over a period of four years until the end of each Project's lifetime (respectively a reasonable point in time before the cessation of production). Assuming for each Project a turnaround in 2018, the Tribunal finds that no more turnaround can be reasonably ascertained at Petrozuata before the Project is faced with a severe drop in 2023, whereas for Hamaca, there remains an expectation for two further turnarounds or PRACs after the one expected in 2018.

e. Other CAPEX and OPEX based on the CEM

642. The Tribunal will not repeat what it has already said about inflation and exchange rate. The Tribunal now addresses, in respect of Petrozuata, CAPEX Upstream Facilities, Upgrader Facilities and G&A, and for Hamaca, the CAPEX items pertaining to the same categories as Upstream Facilities, Upgrader Facilities[443], G&G (Exploration) and G&A (General and Administrative).

643. In these matters, as explained above, the Tribunal will retain the numbers projected in the CEM, to which neither Party objected, and then apply the exchange rate and the combined inflation rate suggested by the Respondent. The resulting figures will be listed further below.

---

440 A division of 50:50% between Bolivars and US$ has been noted but remained uncertain in light of the absence of documentary evidence and the impossibility to determine the actual dates. Cf. TR-E, 2017 March Hearing, Day 12, p. 3530:14-21(Kahale, Spiller), 3533:1/2 (Kahale).

441 Respondent's Cost Estimation for Petrozuata, p. 33: US$ 457,576,000. A budget plan provided for an expense of 1,118.81 MM US$; C-571; Earnest, Technical Assessment of the Hamaca and Petrozuata Upgrader Performance, 13 October 2014, Exhibit 04. Cf. TR-E, 2017 February Hearing, Day 10, p. 2926:13-2931:17 (discussing with Mr. Earnest the impact of exchange rate). The final work list of the 2015 Petrozuata turnaround does not allow any conclusions in respect of costs (cf. Figuera Appendix 141).

442 Respondent's Cost Estimation for Hamaca, p. 42: US$ 512,913,000.

443 Subject to the 2008 removal of US$ 30 MM for work to be done at the coker unit.

644. The same methodology applies to the comparable costs item in the category of OPEX, with one important difference. The Parties basically rely again on the bottom figures contained in the CEM, in the case of Petrozuata in respect of Upstream, Upgrader, G&A, plus "Third Party", whereas the same categories are retained for Hamaca, to the exception of "Third Party" and the addition of "Marketing". The Tribunal accepts that the impact of inflation in respect of the Bolivar portion of costs is based on the pertinent Venezuelan inflation rate, but in reversing the proportion between the two currencies, taking for OPEX 70% Bolivars and US$ 30%. The Tribunal notes that the OPEX inflation rate is slightly different from the CAPEX inflation rate, these categories reacting not in identical proportions to the impact of moving oil prices[444]. The Claimants have no further objection in this respect, as this has been discussed above, and they do not challenge the numbers used by the Respondent and its experts. The resulting figures will be listed further below.

645. The Respondent added another correction to OPEX in assuming EHCO volumes based on real terms for 2007 and 2008 and for later years on the projections prepared by Mr. Patiño and then adjusting 30% of OPEX accordingly[445]. EHCO production listed in Mr. Partiño's conclusions is based on pure speculations and cannot impact costs assessment in any way. Moreover, the Respondent does not explain why such adjustment should be limited to a 30% portion of OPEX.

646. The Tribunal also recalls the evidence that cost assessments having an impact on the Claimants' revenue and their damage claims can relate to events occurring since the taking only, which is later than 26 June 2007 (or, for practical reasons, 1 July 2007). The Respondent has submitted cost claims for CAPEX at Petrozuata where the amount refers to the full year 2007[446]. Such amounts must be divided by half.

f. Additional CAPEX and OPEX

647. For <u>Petrozuata</u>, the item "Others" under CAPEX consists of two elements, (i) firefighting, and (ii) fire repairs and restoration of solid handlings facility. The relevant costs had not been contemplated in 2006. However, the Claimants cannot object to costs that were not foreseen but that are closely related to the Projects in such a way that they appear as consequences that are in a range of events to be expected within a carefully operated Project.

648. Therefore, the Tribunal finds that improving *firefighting* systems in the years 2012 to 2014 is a normal occurrence in the oil industry and that even in cases where the costs exceeded the minimum required, such costs are reasonably connected to the Project and must be supported by

---

[444] Cf. Cost Estimation Petrozuata, p. 41.

[445] Cf. *ibidem*, p. 43/44, 48, 52/53, 56/57.

[446] Cf. *ibidem*, p. 24 (G&A), 27 (Upstream Facilities), 30 (Upgrader Facilities).

its partners. This is equally true even when it cannot be demonstrated that such expense was required by an insurer[447]. The Tribunal takes the total expense of US$ 10,732,625 as established on the basis of the set of contractual documents and the proforma invoices submitted[448]. However, the division between the three years concerned is unclear and not explained. The Tribunal will thus proceed in splitting the total amount in three equal parts over the years 2012 to 2014.

649. As regards the *fire repairs and restoration of solid handlings facility*, the Tribunal observes that this cost item has allegedly been caused by a fire in that facility, which was undoubtedly an accidental and abnormal event, not to be expected in the normal course of such business. It has first to be noted that the restoration of the facility is presented as a separate opportunity cost[449]; it is thus not connected necessarily to the fire, but appears to have been a good occasion when the consequences of the fire had to be remedied. The invoices relating to the restoration of the facility are all dated 2012 or 2013[450], more than three years after the fire occurred in early 2009[451]. This portion of the cost item can therefore not be retained by the Tribunal, as there is no proof that such costs had been caused by the fire and would have been part of a but-for world scenario.

650. The accidental nature of that fire demonstrates that there can be no connection to any potential future involvement of ConocoPhillips in the Project after June 2007. Moreover, it is far from certain that the actual Project's governance was immune from any obligation of its own to cover the repair costs. From the alleged total costs of about US$ 49 million, only US$ 11 million were covered by insurance[452]. No evidence has been provided that would explain why the insurance did not cover a higher amount and whether such consequence resulted from the contractual framework. In addition, no explanation has been provided that would assist the Tribunal in understanding the division of costs on fire repair and restoration relating both to the same facility. A further debate before the Tribunal demonstrated the lack of evidence and the poor information available with

[447] As this was objected by the Claimants (Cost Estimation Petrozuata, p. 38) and Mr. Earnest, Consolidated Expert Report, 17 October 2016, paras. 112/113.

[448] Figuera Appendix 148; Cost Estimation for Petrozuata, Annex I. An additional improvement of the firefighting system had been forecasted in July 2014 at US$ 100 million, an amount that is not included in the Cost Estimation (cf. Figuera, Third Supplemental Testimony, 15 August 2014, para. 97; Appendix 83).

[449] Cost Estimation for Petrozuata, Annex III, listing the invoices contained in Figuera, Appendix 146.

[450] *Ibidem*.

[451] No precise date is on the Tribunal's record. The first contract providing for reparation of the facility was signed on 8 January 2009; cf. Figuera Appendix 142. Counsel of the Respondent confirmed that it was in early 2009; TR-E, 2017 September Hearing, Day 16, p. 4726:20-4727:2 (Preziosi).

[452] Cost Estimation for Petrozuata, Annex II. Contractual documents and invoices are supplied in Figuera Appendix 142, without explanation. See also the Respondent's Answers of 10 July 2017, p. 19 (Question 11), and the table attached to Mr. Earnest's Consolidated Expert Report, 17 October 2016, Exhibit 10. Doubts about the seriousness of the work undertaken emerge when reading the governmental inspection report on the Orinoco Oil Belt dated 31 July 2015, p. 29 (C-649).

respect to the sequence of events and their interrelation[453]. For all these reasons, the Tribunal does not accept the cost item on fire repairs and restoration of the solid handling facility.

651. The Respondent did not provide clear information about the insurance coverage of the Projects. It was said that the available insurance did not cover damages to property. No evidence has been presented on this point, nor does the record contain documentary evidence in respect of insurance policies, requests for payment by the insurance company, invoices, etc. The Hamaca Association Agreement (C-22) provided in Article 8.8 that insurance shall be procured and maintained to cover, among others, property, control of well, liability, in such a way that reinsurance is made available[454]. The Petrozuata Offering Circular of 1997 stated that the Company will be obligated to maintain insurance customary for this type of project, including business interruption insurance and property insurance, covering all risks of physical damage or loss (C-75, p. 26, 51, 89/90). The Tribunal notes that the Hamaca Board meeting approved in 2006 liability insurance for claims relating to product liability (with an indemnity limit of 100 US$ million) and damages, and property damage and business interruption insurance, covering direct physical loss or damage all risks (for an indemnity limit of US$ 950 million)[455]. Some Financial Statements recorded expenses for insurance[456]. It may be assumed that the situation was not significantly different for Petrozuata. In light of this information, the burden would have been on the Respondent to demonstrate that such insurance either was not effectively concluded or did not cover more than the amount of US$ 11 million. The lack of evidence on insurance coverage affects various other alleged costs that *prima facie* would be eligible for coverage by insurance.

652. The Respondent submits in connection with the solid handling facility a further item covering an important amount of costs in respect of "*trucking*". It explains that the operational difficulties and the unavailability of the solids handling facility had the effect of requiring solids – mostly coke – to be transported away on a huge pile, which involved a great number of trucks and workers for a certain number of years. The Respondent explains that this was the consequence of the need to restore the facility and thus ultimately the result of the fire that had happened in 2009.

653. The Tribunal observes that the factual occurrence of these events raises more doubts about the relationship the Respondent asserts between these three key elements: fire – restoration of the facility – need for trucking coke away. When the facility was damaged by fire in early 2009, it took

[453] Cf. TR-E, 2017 September Hearing, Day 16, p. 4709:12-4736:19.

[454] More detailed provisions are then to be found in Article 11 of the Operating Agreement under Annex F, providing that the types of insurance shall cover all risk physical damage to all real and personal property of every kind (III), any coverage to be understood as primary insurance (V).

[455] Figuera Appendix 25, Hamaca Board of Directors Meeting, 18 May 2006, p. 11/12.

[456] Cf., Hamaca/PetroPiar Financial Statements (CLEX-094) for the years 2009 and 2010 (p. 151/pdf), 2012 (p. 298/pdf), 2013 (p. 298/299/pdf), for amounts between US$ 3.691 and 7.112 million.

the Project more than five months to sign the first contract relating to the coke transport[457]. At that time, the facility had become available, because basic repairs were done after three months[458]. The trucking began in 2009, but it was not intensified before 2011, and lasted until 2014. This results from the amounts of costs in US$ listed by the Respondent and supported by stacks of invoices supplied by Mr. Figuera without explanation: 13,328,992 (2009), 3,001,293 (2010), 35,322,929 (2011), 96,351,310 (2012), 64,466,776 (2013), 66,784,443 (2014)[459] – resulting in a total of US$ 279,255,742. These numbers show that more than 90% of the costs for trucking relate to the years 2011 to 2014. This demonstrates that the investment in trucking coke was not caused by the fire and the restoration of the solids handling facility. It had other logistical reasons that have nothing to do with the operational scheme based on the Association Agreements and the but-for scenario. If the facility needed further repair, one would expect the associated costs claimed, such as the US$ 203 million budgeted for the modernization and expansion of the facility[460]. This has not been done.

654. The Tribunal simply recalls that it rejected above a cost item the Respondent isolated for "*well repairs*" as OPEX that is not based on any evidence on the Tribunal's record; Mr. Patiño relies, without any further verification, on the statement of another individual, who appeared as a witness in the *Mobil* arbitration.

655. Finally, the Tribunal notes that although a number of financial statements are on its record (CLEX-093), the Respondent declared that it does not rely on them[461]. These statements cover the period between July 2007 to 2008 and 2011 to 2014. The Respondent explains that statements for the years 2009-2010 were not available because as from 1 January 2009, Petrozuata had its assets and related risks transferred to PDVSA. Nonetheless, this is not an argument sufficient to consider unreliable any information that may have been gathered on PDVSA's financial statements. In any event, the figures the Respondent mentions in its Cost Estimations as representing the financial statements are so massively divergent from the amounts of costs the Respondent claims in this

[457] Contract dated 18 June 2009; cf. Figuera Appendix 143. In the Respondent's Cost Estimations, the first contract was dated 4 September 2009 (Hamaca, Annex VIII), respectively 18 November 2009 (Petrozuata, Annex IV).

[458] Respondent's Answers of 10 July 2017, p. 18 (Question 11). The loss of opportunities report noted an unavailability of the facility for August 2009; cf. Figuera Appendix 73, p. 10/pdf. Witness Figuera could not confirm that the reparation of the solid handling facility had ever been completed: TR-E, 2017 February Hearing, Day 8, p. 2425:17-2426:9.

[459] Cf. Cost Estimation for Petrozuata, Annex IV. The invoices for 2009-2014 are mostly contained in Figuera Appendix 143, whereas part of invoices relating to 2014 are said to be contained in Figuera Appendix 172 that has not been produced before this Tribunal. See further Cost Estimation for Hamaca, Annex VIII, and Figuera Appendix 144. Another list of contracts supplied by PDVSA and included in the Claimants' file (C-572) notes a total amount of US$ 4.2 million for trucking between 2009 and 2014.

[460] Cf. Figuera, Third Supplemental Testimony, 15 August 2014, para. 71/72; Fourth Supplemental Testimony, 7 January 2015, para. 65.

[461] Cost Estimation for Petrozuata, cover page, last footnote.

proceeding that they can hardly constitute evidence for this proceeding[462]. The Respondent's Counsel declared to the Tribunal that the financial statement constitute evidence in support of expenses of the Projects[463]; he relied on these accounts on several occasions[464]. This position appears inconsistent with the Respondent's declaration made in its Cost Estimations.

656. For Hamaca, the Respondent lists several additional cost items, the first of which relates to an *electricity generating equipment* in the amount of US$ 94,800,000 in 2010. It is not disputed that this expense stems from a governmental decree requiring PDVSA and its affiliates to establish and use independent generation capacity so that they will no longer depend on the national electricity providers[465]. Such a governmental decision has been in the range of measures to be expected on a project such as Hamaca. The Claimants do not oppose the need to acquire such equipment. Their criticism addresses the amount of the expense and the omission to indicate a corresponding reduction in the costs of purchasing electricity from the national grid. The Respondent does not answer the second remark, and it does not comment on either the effect that such new electricity supply must have had on the increase in efficiency following the reduction in power failures, together with the impact on the OSF.

657. The Claimants' expert Mr. Earnest submits that the claimed costs are two or three times too high, all the more so as the financial benefits that self-generation provides are not discounted[466]. He submitted industry reports on power generators (Exhibits 12/13). However, he did not go further than raising doubts about the size of the electricity capacity acquired and the price paid. He does not submit that the equipment actually purchased was useless in any respect or manifestly overpriced. He does not provide even an idea about the decrease in costs in downstream facilities that may have been obtained. The Tribunal accepts that there may have been better opportunities to buy electricity generators for lower prices and capacities more closely tied to the needs of the upgrader. However, the Tribunal also finds that there is a margin of business decision making where it appears inappropriate to claim for better products and lower prices years after the purchase has been made, certainly on the professional advice available to all partners of the mixed company[467]. Therefore, the Tribunal retains the amount of US$ 94,560,000 invoiced in 2010, together with an additional amount of US$ 277,725 in 2011.

---

[462] Cf. *ibidem*, cover page and table, p. 67-75.

[463] TR-E, 2017 September Hearing, Day 18, p. 5277:18/19, 5301:15-21 (Kahale).

[464] Cf., for instance, TR-E, 2017 March Hearing, Day 12, p. 3516:3-14, 3540:20-3541:5; Day 15, p. 4474:17-20, 4475:19-4476:2 (Kahale); 2017 September Hearing, Day 16, p. 4695:22-4696:3, 4698:1-5 (Preziosi), 4705:15/16 (Kahale); all in relation to costs for turnarounds and PRACs.

[465] Cf. Decree No. 6.992 dated 21 October 2009 (Figuera, Appendix 69).

[466] Consolidated Expert Report, 17 October 2016, paras. 28, 121, 125/126. Another expert noted that costs of buying electricity from third parties should have been deducted: TR-E, 2017 March Hearing, Day 13, p. 3827:8-13 (Abdala).

[467] Cf. Figuera, Appendices 138-140.

658. The Respondent introduces in "Others" an amount of US$ 5,600,000 for an *EOR assessment* made in 2015[468]. The complete lack of evidence is sufficient to explain that the Tribunal will not retain this item. Moreover, it seems confusing to see the Respondent accepting attempts for EOR in the but-for scenario, when it had so strongly argued that steam injection and any comparable new extraction technique could not be envisaged in the framework of the Association Agreements.

659. Difficulties with the vibrations at the *Coker Unit* were well known before the expropriation[469]. It is equally not disputed that various attempts to resolve the problem failed and that at the critical time in 2007 and even thereafter, no advise was convincing and offering a final solution. The PAM included an amount of US$ 30 million for 2008 relating to the coker unit, however not provided with further explanation. The Respondent deducted this amount and claims instead costs for the installation of braces and other repair attempts at the coker unit for US$ 11,514,000 through 2014, and US$ 8,954,000 in 2015. The Tribunal cannot follow the Respondent when it takes the US$ 30 million forward into the costs for 2008, appropriately inflated, whereas the expense had not been made. This amount was not used; it must be removed from the list of costs. Instead, the two other amounts mentioned above correspond allegedly to actual expenses. The amount of US$ 11,514,000 is composed of a long list of amounts supported by invoices, in Annex I of the Cost Estimation for Hamaca. These invoices are said to represent a "total through 2014". In fact, they cover dates from June 2007 until December 2011. In the explanation provided by the Respondent, the total of US$ 11.5 million is for the period 2005-2014 (p. 51), which is manifestly not what results from the dates given for the invoices. Finally, the second amount of US$ 8.9 million is supported by a purchase order and a contract, not on this Tribunal's record, and it is said to relate to 2015 (p. 51). This Tribunal cannot approve this last amount, for lack of evidence and in light of missing explanation of the need for such substantial expense when between 2013 and 2014 apparently nothing, or very little, has been undertaken. In February 2013, an engineering study was made by Chevron Energy Technology Company, concluding that "the application of dampers under the current conditions was judged not practical", and that "proceeding with this option is not practical"[470]. No further clarification about the fate of this report and the coker unit has been brought before the Tribunal[471].

---

[468] Cost Estimation for Hamaca, p. 49. The Respondent referred to a statement made by Mr. Figuera in the ICC arbitration; TR-E, 2017 September Hearing, Day 16, p. 4658:16-4660:6, 4672:20-4673:11. No documentary evidence is on this Tribunal's record. In any event, Mr. Figuera did not have personal knowledge about the recent use of EOR.

[469] See the proposal for remedy by Foster Wheeler of 19 December 2006, Figuera Appendix 71.

[470] Figuera Appendix 72, p. 9, 25.

[471] The Respondent noted that the attempts led by Chevron in 2012 and 2015 were unsuccessful; cf. Cost Estimation for Hamaca, p. 51. No evidence was added to this statement. Witness Figuera noted that the sheer walls remain to be built: TR-E, 2017 March Hearing, Day 11, p. 3161:22, 3166:20-22, 3168:11-3169:4.

660. On the basis of the Tribunal's record, it cannot be denied that the coker unit was a serious problem that was in need of a solution[472]. It was not only known, but it was also generally considered as difficult to be remedied. Therefore, there must have been a margin of expenses that did not lead to successful reparation, with which the Claimants would also have been confronted with in a but-for scenario. The Claimants have the experience from the years 2005 to 2007 when the coker already caused problems. One would therefore expect that they would be able to scrutinize in detail the numerous invoices supplied by Mr. Figuera[473]. They are capable, if need be, of saying more than simply that the alleged coker repair costs "are not sufficiently substantiated" (p. 50). The Tribunal notes that the revision of the coker unit was a recurrent item at any turnaround. Costs identified as specifically related to such work may in fact have been counted as well in the budget for the 2009 turnaround[474] and the 2012 PRAC[475]. The Respondent could not dispel serious doubts in this respect. Therefore, the Tribunal deducts from the alleged costs for 2007 to 2012 a total of US$ 3,047,456 that it understands as representing work on the coker unit that was done during the 2009 turnaround and therefore most probably included in its budget[476]. The remaining costs to be retained for July 2007 until the end of 2011 are thus US$ 8,467,002, allocated for each year in appropriate proportions. Thereafter, the Claimants are no longer involved in a but-for scenario perspective. It has been convincingly shown that Chevron, actual partner of the mixed company, is the principal actor in resolving this issue, based on its February 2013 report[477].

[472] Witness Figuera explained that the problem did not consist in a current reduction of productivity and had no impact on the OSF, but it implied a potential loss of production in the event of an adverse incident; the vibration problem was a risk factor (Supplemental Testimony, 26 January 2010, paras. 90, 96; TR-E, 2017 March Hearing, Day 11, p. 3162:10-14). Probability calculations have been made by the Respondent's experts, which had no relation to reality (TR-E, 2017 March Hearing, Day 12, p. 3628:2-3635:11, 3642:13-16; cf., for an analysis, Earnest, Consolidated Expert Report, 17 October 2016, paras. 38-42); the Respondent did not share its own experts' methodology (cf. Respondent's Post-Hearing Brief, footnote 276).

[473] Appendix 121.

[474] A report of a technical team noted in January 2009 that flanges were successfully replaced, but that metal cracks remained to be repaired and a further inspection to be made at the forthcoming turnaround (p. 45-49). Annex 10 filed with Respondent's Reply of 31 July 2017 (Question 3). Prior to this, a Coker Structure Vibration Project has been prepared in April 2007, with the aim of making efforts as soon as possible but not later than the plant shutdown in August 2008 (C-382); but this turnaround was then differed to 2009: Lyons, Fifth Witness Statement, 13 October 2014, para. 30; Second Witness Statement, 30 October 2009, para. 48. Counsel of the Respondent told the Tribunal that nothing could be found in the turnaround reports about the coker vibration issue; TR-E, 2017 September Hearing, Day 16, p. 4630:15-4632:6 (Preziosi). This seems not convincing in light of those parts of the report that address specifically the coker items concerned by the vibration defect (p. 8/9).

[475] Coker equipment 12-V-001 to 004 was part of the repaired equipment during the 2012 PRAC. Figuera Appendix 46, PetroPiar, 2012 Final Report on PRAC, August 2013, p. 25; Annex II, Master Plan PRAC 2012, vol 2, p. 2, 3, 30, 32, 550/pdf.

[476] Relating to invoices 535, 537, 583, 603 602, 614; Cost Estimation for Hamaca, Annex I, p. 14/15.

[477] Cf. Earnest, Consolidated Expert Report, 17 October 2016, paras. 43-53.

661. The Respondent adds an item for *PREM* under OPEX, covering the period from 2012 to 2016. The invoices in the record[478] indicate that this activity covers a variety of items typical for upgrader maintenance. It has not been explained to the Tribunal why these costs could or should not appear under "Upgrader" OPEX – an item that represents by far higher costs to such an extent that an allegation that its budget could not be allocated to what is understood by the new label "PREM" would require serious explanation supported by consistent documentary evidence[479]. The Respondent has failed to act accordingly. The item "PREM" does not appear in the Financial Statements (CLEX-094). While it may be said that the Claimants are going too far in concluding that the PREMs had not affected the upgrader performance (p. 79), one would at least expect that the Respondent demonstrates that they had a positive effect, on the OSF or otherwise. The Respondent does not accept such an expectation, arguing that expenses may be justified even if they do not result in a measurable increase in the upgrader's OSF. Implicitly, the Respondent accepts that such an increase was not measured (p. 80). Nonetheless, the Respondent fails to demonstrate the specific purpose of these PREMs, other than to concentrate a certain number of maintenance interventions under a common label and operational structure.

662. In respect of a PREM for 2016, the costs are alleged through a simple inflation increase from the 2015 PREM. More should have been expected in June 2017, when the Estimation was filed with the Tribunal (like bids and contracts). Furthermore, there does not seem be a real need for a PREM in a year where a turnaround was scheduled. The Tribunal cannot accept on such a speculative cost allegation.

663. The Respondent attributes US$ 7 million to a *catalyst purchase* in February 2010. It is true that changes in the catalyst unit took place from time to time and in between turnarounds, requiring the shutdown of the upgrader. The 2009 turnaround also involved work on the catalyst[480]. The report on this turnaround identifies by their numbers all reactors that were concerned[481]. The Respondent did not identify the reactors affected by the change scheduled for 2010, but it stated that the change that took place was "partial"[482], referring also to Witness Figuera who explains the cause of this additional cost item. Purchase orders were supplied[483], but no invoices. A 2009

[478] Figuera Appendixes 115-118; see also Respondent's Reply of 31 July 2017, Annex 6; Claimants' Answers, 10 July 2017, Annex A.

[479] Serious disparities appear when comparing the projected expenses for 2012-2014 (Figuera Appendices 45, 77 and 79) to the amounts claimed by the Respondent (Cost Estimation for Hamaca, Annexes III-VI).

[480] Figuera Appendix 76, Final Report on PetroPiar's 2009 turnaround, 21 September 2010, p. 8/9, 17, 27, 46.

[481] Figuera Appendix 76, p. 46

[482] Cost Estimation for Hamaca, p. 81.

[483] Figuera Appendix 129.

Catalyst Change Price Summary shows costs for US$ 11.8 million[484]. Witness Figuera explains that the change in 2010 was only a partial one, since a portion of the catalyst that had been installed in 2009 was able to be salvaged. He states: "The catalyst that was installed in 2009 failed due to the fault of the contractor"[485]. This fact might explain the omission of the filing of any invoices. The testimony of Mr. Figuera leads to the conclusion that the costs for such reparation in 2010 cannot be borne by the Claimants.

664. Another item on the unsuccessful operation of equipment of the upgrader relates to the *Tank 12 Repairs*. The Respondent explains that the operating procedures for start-up of the upgrader allowed volatile hydrocarbons to be routed to tank 12. The tank venting system as designed was inadequate to accommodate an overpressure situation when light hydrocarbons were routed to the tank. Several deformations to the tank's roof and cracks in the walls did occur already before the nationalization and they were contributors to the serious 2011 overpressure event when the tank caught fire[486].

665. The Tribunal wonders why the Project let the tank 12 in operation until the incident in 2011 when the critical condition of this item was known already before June 2007[487]. This leaves room for contributory negligence by the actual operators of the upgrader for more than four years. The incident appears less dramatic than it has been described. When the accident happened, the tank was taken out of service, but after two days, it started again with a limited load through a piping system that bypassed tank 61-TK-012 and permitted the direct flow of vacuum residue from the Crude Unit to the Coker Unit[488]. A decision had been made to undertake the construction of a new tank (61-TK-061), which was scheduled to commence by mid-2012[489]. Tank 12 came back on line in May 2013[490].

---

[484] Figuera Appendix 130.

[485] Figuera, Fourth Supplemental Testimony, 7 January 2015, footnote 125.

[486] Figuera Appendix 46, PetroPiar 2012 Final Report on the PRAC, August 2013, p. 86. For Witness Figuera, tank 12 had a design flaw; however, he did not object considering operational errors occurring on multiple occasions; Fourth Supplemental Testimony, 7 January 2015, para. 50.

[487] Difficulties with tanks also appeared at Petrozuata, where a tank roof repair project was ongoing in early 2007 already; cf. Petrozuata Preliminary Monthly Report of February 2007, p. 2 (LECG-156, p. 38/pdf).

[488] Cf. Memorandum from Francisco Velásquez, Manager of the Upgrader, to Ysaac Donis, President of PetroPiar, 19 June 2013, Figuera Appendix 132.

[489] Cf. Figuera Appendix 131, PetroPiar, Motivated Administrative Act dated 10 February 2012 (p. 1), further noting that the reconstruction of tank 12 had to be accomplished on 30 June 2012 (p. 4). The construction of the new tank was not undertaken; Fourth Supplemental Testimony, 7 January 2015, footnote 134; TR-E, 2017 September Hearing, Day 16, p. 4787:15-21, 4788:11-18 (Preziosi).

[490] Figuera, Third Supplemental Testimony, 15 August 2014, footnote 109.

666. No explanation was provided by the Respondent about the availability of contributions from an insurer. The fact that documents provided to the Tribunal are all contracts including amendments, without any invoice, raises suspicion. The Respondent does not prove that the costs were actually incurred by the Project and not by a third party, like a contractor or an insurance company. Counsel for the Respondent told the Tribunal that no property damage or business interruption insurance was available[491], but he ultimately admitted that the evidence was missing[492]. More than half of the amount of costs was contracted before the 2012 turnaround; this would mean that work on tank 12 was performed during this period and may be included in that budget[493]. Witness Figuera showed a presentation of costs for major repairs of the tank, which are substantially different from those in Annex VII of the Respondent's Cost Estimation for Hamaca[494]. The matter remained unclear. It would have been the Respondent's burden to demonstrate that the costs claimed have not been paid by any third party and that there is no overlap with the 2012 turnaround. The question also remains unanswered whether tank 12 did not serve the production of blended oil that contains a fraction of light hydrocarbon. For all these many reasons, the Tribunal cannot accept that these costs should be borne by the Claimants in a but-for scenario.

667. The Respondent lists for Hamaca a separate item on *well repairs*, as it does for Petrozuata. The Tribunal's conclusion remains the same. The Respondent's figures are allegedly based on Mr. Patiño's findings and on testimony submitted in the *Mobile* arbitration. As stated above, Mr. Patiño provides no expert knowledge in this respect and the testimony delivered in another proceeding cannot be introduced into the record of this Tribunal. Well repairs' costs not supported by evidence, they remain included in the costs for upstream based on the CEM from where the Respondent suggested to have them removed.

668. As for Petrozuata, the Respondent's cost list for OPEX at Hamaca includes an item on *solid handling facilities trucking*, covering the period between 2009 and 2014 for a total amount of US$ 70,628,979[495]. The bulk of these costs relate to the years 2012 to 2014; no invoice refers to 2011, and for each year 2009 and 2010, the invoices are less than one million. These figures demonstrate, as this applies to Petrozuata, that the investment in trucking coke was not caused by the fire and the restoration of the solids handling facility. It had other logistical reasons that have nothing to do with the operational scheme based on the Association Agreements and the but-for scenario.

---

[491] TR-E, 2017 September Hearing, Day 16, p. 4806 :12-15 (Kahale).

[492] TR-E, 2017 September Hearing, Day 16, p. 4807 :18-22 (Kahale).

[493] At the 2009 turnaround, tank 61-V-012 was an item of examination between 18 October and 25 November 2009; cf. Figuera Appendix 76, Final Report on PetroPiar's 2009 Turnaround, 21 September 2010, p. 15.

[494] Figuera Appendix 78.

[495] Annex VIII of the Cost Estimation for Hamaca.

669. In respect of Hamaca, as it had done for Petrozuata, the Respondent adds figures representing the compounded amounts for CAPEX and OPEX taken from those *financial statements* that were available (CLEX-094). It states that it did so in response to the Tribunal's request for further information on actual production. But the Respondent has not relied on these statements[496]. The Respondent wanted at least to show that taken from an overall perspective the actual costs reported in the financial statements are above those claimed in this proceeding.

670. A particular item relates to the amounts of costs to be considered at Petrozuata and Hamaca during the three years after the Projects suffer a serious decline since 2024 and 2034, respectively. The available documentation shows that as from these years, the projections for CAPEX go down to about 30%, while OPEX only slightly decreases for three more years at least (not taking account of drilling and turnarounds any longer)[497]. The Tribunal will use these estimates.

g. Totals for CAPEX and OPEX

671. The totals for CAPEX and OPEX are as follows:

Petrozuata – CAPEX									
	Drilling	Upstream Facilities	Upgrader Facilities	G&A	CEM (subtotal)	CAPEX inflation index	Turna-rounds	Fire-fighting	US$ MM total (column 6/7, 8, 9)
2007 ½	49,100	16,132	2,980	3,900	72,112	1.19			85,813
2008	54,011	53,310	9,800	7,520	124,641	1.42			176,990
2009	55,281	19,256	5,500	5,000	85,037	1.49			126,705
2010	43,718	28,006	5,500	5,000	82,224	1.28			105,247
2011	33,135	12,413	5,500	5,000	56,048	1.45	236,000		317,270
2012	46,312	21,636	5,500	5,000	78,448	1.59		3,578	128,310
2013	50,480	23,941	5,500	5,000	84,921	1.56		3,578	136,055
2014	47,137	13,020	5,500	5,000	70,657	1.89		3,577	137,119
2015	48,748	20,871	5,500	5,000	80,119	2.70			216,321
2016	55,085	25,428	5,500	5,000	91,013	1.03			93,743
2017	45,888	20,210	5,500	5,000	76,598	1.53			117,195
2018	55,334	20,195	5,500	5,000	86,029	1.33	75,000		189,419
2019	59,501	8,830	5,500	5,000	78,831	1.32	75,000		179,057
2020	62,234	9,215	5,500	5,000	81,949	1.33	75,000		183,992
2021	78,581	9,791	5,500	5,000	98,872	1.34	75,000		207,488
2022	88,033	11,148	5,500	5,000	109,681	1.36			149,166
2023	0	22,700	5,500	5,000	33,200	1.39			46,148
2024	0								20,000
2025	0								20,000
2026	0								20,000
1	2	3	4	5	6	7	8	9	10

[496] Cost Estimation for Hamaca, cover page, last footnote, p. 95.

[497] Cf. CEM, p. 41/pdf (LECG-085).

Hamaca – CAPEX (1)								
	Drilling	Upstream Facilities	Upgrader Facilities	G&G	G&A	CEM (subtotal)	CAPEX inflation index	subtotal
2007 ½	7,977	33,153	44,650	925	10,757	97,462	1.19	115,980
2008	60,259	101,177	106,800	925	23,824	292,985	1.42	416,039
2009	53,432	38,427	20,000	725	19,393	131,977	1.49	196,646
2010	7,001	15,478	20,000	475	23,969	66,923	1.28	85,661
2011	36,237	19,561	20,000	675	22,882	99,355	1.45	144,065
2012	58,473	22,960	20,000	313	21,646	123,392	1.59	196,193
2013	65,665	25,219	17,000	650	21,015	129,549	1.56	202,096
2014	68,980	15,862	18,000	1,000	20,801	124,643	1.89	235,575
2015	59,367	4,988	10,000	900	20,845	96,100	2.70	259,470
2016	43,050	11,064	17,000	913	19,545	91,572	1.03	94,319
2017	55,729	34,354	18,000	11,525	19,271	138,879	1.53	212,485
2018	60,291	38,039	10,000	11,675	19,789	139,794	1.33	185,926
2019	38,515	13,842	17,000	350	18,545	88,252	1.32	116,493
2020	42,060	2,024	18,000	225	18,805	81,114	1.33	107,882
2021	40,085	25,089	10,000	225	19,359	94,758	1.34	126,976
2022	55,784	56,941	17,000	300	18,640	148,665	1.36	202,184
2023	61,975	44,658	18,000	225	18,859	143,717	1.39	199,767
2024	67,525	23,227	10,000	325	18,744	119,821	1.41	168,948
2025	67,405	21,600	17,000	125	18,641	124,771	1.43	178,423
2026	70,455	30,343	18,000	175	20,707	139,680	1.46	208,123
2027	147,615	31,078	10,000	200	18,955	207,848	1.48	307,615
2028	70,500	25,111	17,000	125	18,573	131,309	1.51	198,277
2029	69,010	21,470	18,000	150	18,653	127,283	1.53	194,743
2030	66,890	12,999	10,000	225	18,885	108,999	1.56	170,038
2031	20,795	3,998	17,000	125	17,230	59,148	1.59	92,271
2032	0	6,974	18,000	125	15,748	40,847	1.61	65,764
2033	0	7,284	10,000	125	15,319	32,728	1.64	53,674
2034								
2035								
2036								
1	2	3	4	5	6	7	8	9

Hamaca – CAPEX (2)				
	Turn-arounds	Electri-city	Coker Re-pairs	US$ MM total (column 9-12)
2007 ½			941	116,921
2008			1,882	417,921
2009	223,000		1,881	421,527
2010		94,560	1,882	182,103
2011		228	1,881	146,174
2012	153,809			350,002
2013				202,096
2014				235,575
2015				259,470
2016				94,319
2017				212,485
2018	75,000			260,926
2019	75,000			191,493
2020	75,000			182,882
2021	75,000			201,976
2022	75,000			277,184
2023	75,000			274,767
2024	75,000			243,948
2025	75,000			253,423
2026	75,000			283,123
2027	75,000			382,615
2028	75,000			273,277
2029	75,000			269,743
2030				170,038
2031				92,271
2032				65,764
2033				53,674
2034				30,000
2035				25,000
2036				20,000
	10	11	12	13

Petrozuata – OPEX

	Upstream	Upgrader	G&A	Third Party	CEM (subtotal)	OPEX inflation index	US$ MM total (column 6/7)
2007 ½	24,344	39,546	19,387	5,149	88,426	1.17	103,458
2008	57,169	78,870	39,615	2,063	177,717	1.47	261,244
2009	57,192	78,870	39,615	2,063	177,740	1.76	312,822
2010	57,369	78,870	39,615	2,063	177,917	1.27	225,955
2011	57,651	78,870	39,615	2,063	178,199	1.53	272,644
2012	58,122	78,870	39,615	2,063	178,670	1.79	319,819
2013	58,239	78,870	39,615	2,063	178,787	1.73	309,302
2014	58,661	78,870	39,615	2,063	179,209	2.49	446,230
2015	58,638	78,870	39,615	2,063	179,186	4.78	856,509
2016	59,128	78,870	39,615	2,063	179,676	1.04	186,863
2017	57,927	78,870	39,615	2,063	178,475	2.12	378,367
2018	51,030	78,870	39,615	2,063	171,578	1.61	276,241
2019	52,059	78,870	39,615	2,063	172,607	1.56	269,267
2020	51,421	78,870	39,615	2,063	171,969	1.53	263,113
2021	53,198	78,870	39,615	2,063	173,746	1.53	265,831
2022	54,130	78,870	39,615	2,063	174,678	1.56	272,498
2023	54,516	78,870	39,615	2,063	175,064	1.58	276,601
2024						1.61	250,000
2025						1.64	220,000
2026						1.67	200,000
1	2	3	4	5	6	7	8

Hamaca – OPEX								
	Upstream	Upgrader	G&A	Marketing	Gas Feedstock	CEM (subtotal)	OPEX inflation index	US$ MM to-tal (column 7/8)
2007 ½	28,248	93,622	25,872	5,622	24,993	178,357	1.17	208,678
2008	52,147	262,769	51,119	11,450	47,872	425,357	1.47	625,275
2009	49,810	191,140	52,135	7,312	55,806	356,203	1.76	626,917
2010	49,981	187,773	50,870	7,328	53,101	349,053	1.27	443,297
2011	50,136	201,671	50,573	7,332	61,162	370,874	1.53	567,437
2012	50,085	249,614	51,042	7,326	57,665	415,732	1.79	744,160
2013	50,624	194,805	50,786	7,330	66,529	370,074	1.73	640,228
2014	50,765	195,717	50,800	7,329	62,644	367,255	2.49	914,465
2015	51,131	211,483	50,788	7,329	72,177	392,908	4.78	1,878,100
2016	49,952	258,635	50,514	7,333	68,040	434,474	1.04	451,853
2017	51,348	198,505	50,455	7,334	78,495	386,137	2.12	818,610
2018	52,801	197,719	51,139	7,325	74,069	383,053	1.61	616,715
2019	51,690	213,301	50,661	7,331	85,396	408,379	1.56	637,071
2020	50,834	260,356	50,559	7,332	80,646	449,727	1.53	688,082
2021	51,588	200,466	50,162	7,337	92,673	402,226	1.53	615,406
2022	52,616	199,546	50,658	7,331	87,202	397,353	1.56	619,871
2023	53,191	215,364	44,762	7,408	100,241	420,966	1.58	665,126
2024	52,397	262,252	44,791	7,408	94,122	366,942	1.61	590,777
2025	52,430	202,583	45,048	7,404	107,982	415,447	1.64	681,333
2026	52,657	201,474	45,239	7,402	101,201	407,973	1.67	681,315
2027	53,460	217,521	45,224	7,402	115,930	439,537	1.69	742,818
2028	54,333	264,223	45,115	7,404	108,494	479,569	1.72	824,859
2029	55,372	204,783	45,216	7,402	124,057	436,830	1.75	764,453
2030	55,519	203,493	45,741	7,395	115,977	428,125	1.78	762,063
2031	55,825	219,807	46,215	7,389	132,663	461,899	1.81	836,037
2032	51,019	266,342	45,858	7,394	124,003	494,616	1.84	910,093
2033	51,420	207,213	46,078	7,391	141,813	453,915	1.87	848,821
2034								700,000
2035								600,000
2036								500,000
1	2	3	4	5	6	7	8	9

B. <u>Corocoro</u>

672. The Claimants note that Mr. Figuera's documentary support for alleged costs for Corocoro is virtually non-existent. He relies on a number of slides and on a single contract relating to the Interim Processing Facility (IPF) lease. The Respondent's valuation experts assume an additional cost of over US$ 2 million each month until the Central Processing Facility (CPF) came online in February 2012. However, the IPF was no longer needed as from the time when the CPF came on track. The second difference in the Parties' positions relates to the exchange rate applicable to the Bolivar-denominated costs. The resulting cost inflation is unwarranted.

673. In sum, as for Petrozuata and Hamaca, the Claimants submit that the Projects' pre-expropriation business planning documents and Economic Models are the most reliable evidence of the production-related costs that the Corocoro Project would incur in the but-for world. With respect

to the alternative valuation scenarios, the Parties' quantum experts apply essentially the same methodology on costs with respect to their 2007 valuations.

674. The Respondent states once more that in the post-nationalization period costs have been significantly higher, due not only to industry inflation and high inflation in Bolivar-based costs as a result of Venezuelan inflation that was not offset by timely devaluations, but also because of costs associated with maintenance activities that were grossly underestimated in the models in question. In an *ex post* analysis, the Claimants are not entitled to be compensated on the basis of picking and choosing the historical facts that are to their benefit, such as the increase in oil prices, while ignoring those to their detriment, such as the higher costs resulting from inflation and the higher than projected costs on maintenance.

675. The Respondent's experts have relied largely on the costs set forth in the ConocoPhillips Composite Economic Model, with two adjustments. First, because the production profile they have used has lower annual volumes than those set forth in the model, the annual operating costs are somewhat lower, reflecting the fact that a portion of the operating costs vary with production. Second, because the IPF would have been required for a longer period of time in light of the delays in the completion of the skids and the integration and commissioning of the CPF that would have been expected as of the date of nationalization, the Respondent's experts have included additional operating expenses based on the fee schedule established in the contract for the lease of the IPF.

676. The Respondent's experts have used actual operating and capital costs incurred through 2013. After that time, there were no additional capital costs. As to the post-2013 operating costs, the Respondent assumes that such costs are 70% fixed and 30% variable. It is also assumed that the IPF would have continued to be used until April 2012, when the CPF was commissioned.

677. The Tribunal notes again the poor documentary evidence for costs. As it has done for Petrozuata and Hamaca, the Tribunal takes as a basis for Corocoro the figures retained in the Composite Economic Model (CEM)[498]. It assumes that the input of inflation together with exchange rates on the Bolivar portion of the expenses is the same for this Project[499]. The Claimants do not offer calculations of their own that the Tribunal could use for its assessment. The Respondent refers to numerous PetroSucre Management reports that appear to have been prepared for internal use and contain no information which make it possible for the Tribunal to understand the components of broader cost items[500].

[498] Cf. p. 127/128/pdf.

[499] Witness Figuera confirmed that as for Petrozuata and Hamaca, the operating costs for Corocoro are approximately 70% in Bolivars and 30% in US dollars (Third Supplemental Testimony, 15 August 2014, para. 114).

[500] For CAPEX and OPEX: Figuera Appendices 93-96. These documents are presented by the Respondent as "Reports" (Cost Estimation for Corocoro, p. 9, 11). They are not. They are slides used in a presentation without any explanation.

678. One other remaining critical item is the leasing cost for the IPF. While the Claimants accept IPF leasing costs through 2008, when their own involvement in the Project caused a delay of delivery for the CPF, they oppose the inclusion of leasing costs for a longer period, until April 2012. For the Claimants, this second part of delay is attributable to PDVSA that took over the Project in March 2007 when the CPF was on track to be completed by the end of 2008. Additionally, no invoices are shown that would cover the period between 2009 and April 2012. The Claimants also observe that the IPF was expropriated in 2009, with the effect that no leasing was required to be paid after that date.

679. The Tribunal is not convinced that such leasing costs would have been charged to the Project in a but-for situation. No invoice has been submitted. The contract between Conoco and Hanover has been executed on 25 September 2006[501]. The Tribunal's copy does not contain the "Service Schedule" (Exhibit D). In another Annex it is noted that the service period shall be 24 months (Exhibit E). This would mean that the lease was not for a longer period than until end September 2008[502]. Beyond that date, it is not explained how any extension of such performance would be connected to a but-for situation. Additionally, when it is correct that, as stated by the Respondent[503], compensation for the expropriation was paid in mid-2005, the expropriation effective on 26 June 2007 did not deprive the Project of an asset it was no longer holding as its property at that time. The legal holder of the IPF has not been clarified by the Respondent nor the legal relation between the (expropriating) State and the Project (user of the IPF). Witness Figuera stated that the nationalization occurred in May 2009 and it follows for him that if the Corocoro Project had continued as an Association, a rent would have to be paid until April 2012 when the CPF was commissioned[504]. However, as long as this nationalization is not explained, there is no evidence before this Tribunal that the IPF would not have been expropriated anyhow. In sum, the Tribunal does not include IPF leasing costs for 2007 when no oil was produced, but it adds to the amount of OPEX for year 2008 the sum of MUS$ 120,883 that is accepted by the Claimants.

---

[501] Figuera Appendix 97.

[502] A project for an extension of the IPF to 45,000 BPD for 18 months has been submitted to the Tribunal (Figuera Appendix 98). The Respondent did not confirm that this project was executed but it claims the related costs.

[503] Cost Estimation for Corocoro, p. 15.

[504] Third Supplemental Testimony, 15 August 2014, para. 113.

Corocoro – Costs						
	CAPEX US$ MM	CAPEX inflation index	CAPEX actual US$ MM	OPEX US$ MM	OPEX inflation index	OPEX Actual US$ MM
2007 ½	98,103	1.19	116,743	19,050	1.17	22,289
2008	40,048	1.42	56,868	64,311	1.47	215,420[505]
2009	3,668	1.49	5,465	113,700	1.76	200,112
2010	128,732	1.28	164,777	114,000	1.27	144,780
2011	10,000	1.45	14,500	109,100	1.53	166,923
2012				107,800	1.79	192,962
2013				98,600	1.73	170,578
2014				94,100	2.49	234,309
2015				74,000	4.78	353,720
2016				72,700	1.04	75,608
2017				72,300	2.12	153,276
2018				71,300	1.61	114,793
2019				70,900	1.56	110,604
2020				70,600	1.53	108,018
2021				69,900	1.53	106,947
2022				69,900	1.56	109,044
2023				69,500	1.58	109,810
2024				69,200	1.61	111,412
2025				69,200	1.64	113,488
2026				69,200	1.67	115,564
2027				0		0
1	2	3	4	5	6	7

VIII. Prices and Revenues

680. Based on the volumes of production determined above in Section VI, the monetary value of that production has to be determined. For the 2016 ex *post* valuation, actual market prices and the prices mentioned on the invoices for the historical period since the date of expropriation can be determined. The second part of the analysis on prices then relates to the oil price forecast from 2017 until the date of expiration of the production of each of the Projects. As the Tribunal has explained, it does not retain purely artificial prices projected in June 2007 and will retain prices that are known and therefore represent an indicator for the true loss suffered by the Claimants.

1. *The Claimants' Position*

681. The Claimants rely on their experts' valuation that is based on the relationship between the Projects' crudes and observed benchmark prices for the historical period. The experts then adopt an oil price forecast from 2017 until the expiration of the Agreements.

[505] This amount includes MUS$ 120,883 for IPF leasing costs; CLEX-086, OPEX(CR).

682. The Claimants submit that there are no major conceptual differences between the Parties' projections of syncrude prices. Both Parties: (a) take a primary benchmark, being either Brent crude or West Texas Intermediate crude. The Claimants' experts take the latter for the 2007 valuation and the former for the 2016 valuation; (b) determine the relationship between that primary benchmark and a regional marker for heavy crude (Maya crude), in order to generate a reliable price trajectory for this crude; and (c) they determine the relationship between the price of that regional, heavy crude (Maya) and the historic sales prices obtained for the products produced by the Projects.

683. Despite the broad agreement between the Parties, the prices they use in their valuation models differ. When leaving aside a number of smaller issues, there appear to be two major areas of disagreement.

684. The first disagreement concerns the Claimants experts' approach to the analysis of all available oil price projections with the aim of arriving at a single forecast for future prices until 2037. The Respondent's experts, on the other hand, conduct their price forecast until 2020 only, and then assume that oil prices will remain flat, in nominal terms. They assume that Brent crude will reach a price of US$ 67.50/barrel by the end of 2020, and then remain at that same price until the end of 2037, without any adjustment, even for inflation. This is unrealistic, and not reconcilable with the use of an inflation factor of 2% for Project costs. Therefore, for Brailovsky and Flores, crude oil becomes less and less valuable over time in real terms, while extracting it becomes more costly. These experts submit that there are not enough market forecasts beyond 2020. But there are sufficient numbers of market forecasts extending beyond 2020 to construct a reliable sample. In prior stages of this arbitration, the same experts adopted a 30-year oil price forecast to 2037. But now, they want to drive down damages by any means possible.

685. The second error of the Respondent's valuation relates to the price at which Hamaca syncrude has been and will be sold. Historically, it was sold at a premium to Maya crude oil, but the Respondent's experts assume that it has been and will continue to be sold at a discount to Maya. This assumption relates to post-expropriation operational choices by PDVSA, which have allegedly resulted in the sale of lower quality syncrude. Such a choice should not be considered in a but-for analysis. Absent the expropriation, the Project would have sold the same grade of Hamaca syncrude as had been sold prior to the taking. The Tribunal should reject Venezuela's erroneous price forecasting methodology, which ignores reliable market data.

686. Even if the Claimants' losses were to be valued as of the date of the taking in June 2007, the Tribunal would be entitled to take into account the post-expropriation increase in the market prices of crude oil, as was demonstrated in the Awards and Decisions *Rumeli Telekom A.S.*[506],

[506] *Republic of Kazakhstan v. Rumeli Telekom A.S.* and *Telsim Mobil Telekomunikasyon Hizmetleri A.S.*, ICSID Case No. ARB/05/16, Decision of the Ad Hoc Committee, 25 March 2010 (CL-232).

Tidewater[507], and *Amco*[508]. Accounting for those actual price increases would more accurately reflect the pre-expropriation value of the Projects and avoid a situation in which Venezuela is unjustly enriched. Actual oil prices shed light on the actual value of the Projects. In practical terms, using post-expropriation crude oil prices would increase the valuation of the Projects, as of June 2007, by approximately 48%.

2. *The Respondent's Position*

687. The Respondent also observes that with respect to prices in an *ex post* valuation the Parties' experts use similar methodologies. They both look at available oil price forecasts for Brent crude oil, a light crude oil produced in the North Sea, and Maya crude oil, a heavy oil produced in Mexico. From these figures, they derive a "light-heavy" differential, *i.e.* the difference between the higher quality Brent as compared to lower quality Maya. They then compare the prices at which CCO produced by the Projects has been sold historically to historical Maya crude oil prices as a basis for projecting the prices at which the CCO would sell in the future as compared with projected prices for Brent crude oil. The Respondent further explains that the Project crude oils are inferior in quality to WTI. WTI prices can therefore not be used alone. Light (high API), sweet (low sulfur) crude oils like WTI will have higher values than heavy (low API), sour (high sulfur) crude oils like those produced by the Projects.

688. The Respondent's experts compiled an updated sample of Brent price forecasts that were issued between 1 May and 30 September 2016 and calculated the median for these forecasts for the next five years, after which they have projected that the price of Brent would remain flat, on the assumption that no one can know whether such price will end up being above or below those forecasts as from 2020. The Claimants' experts, in contrast, assume that oil prices will continue to increase at the rate of expected US inflation. For the Respondent's experts, such simplistic perspective is not reliable. There is no justification for assuming ever increasing oil prices over the remaining 20-year terms of the Projects. In two forecasts made in June 2015 and May 2016, respectively, the Claimants' expert, Dr. Abdala, demonstrated the great difference in price scenarios and their high degree of uncertainty. On other occasions, ConocoPhillips has typically not forecast prices more than for a few years into the future. A May 2014 presentation for investors shows that even for a short period of time, ConocoPhillips' price projections did not contemplate the possibility of price dropping into the US$ 30-40 dollar range, as occurred in 2015 and 2016. In an update to investors in 2016, ConocoPhillips stated simply that price recovery remains unclear. In light of these uncertainties, the decision of the Respondent's experts to maintain nominal Brent price projections flat in the long term is reasonable.

---

[507] *Tidewater Investment SRL and Tidewater Caribe, C.A. v. The Bolivarian Republic of Venezuela*, ICSID ARB/10/5, Award of 13 March 2015 (R-642).

[508] *Amco Asia Corp. and Others v. Republic of Indonesia*, ICSID ARB/81/1, Resubmitted Case, Award of 31 May 1990 (CL-48).

689. The Respondent's experts calculated a Maya-Brent differential of 14.11%, while the Claimants' experts reached a slightly lower differential of 13.65% for the historical period. (a) In respect of Petrozuata, the Respondent's experts relied on actual Petrozuata CCO prices through July 2016, and applied the historical Maya-Petrozuata CCO differential to their Maya price forecast, resulting in an average differential of 0.08%, Maya thus being traded slightly below Petrozuata CCO. On the other hand, the Claimants' experts set Maya and Petrozuata CCO at par. Both Parties are thus in virtual agreement on this point. (b) For Hamaca, the Respondent's experts, aside from taking into account all historic sales data through July 2016, include the fact that starting in October 2008, the Hamaca Project sold a lower-quality crude called Special Hamaca Blend, based on the lower performance of the upgrader and the quality of the EHCO. On average, Hamaca CCO has sold at 98.36% of Maya. The Claimants' experts do not take this into account and set the Hamaca CCO price at a premium of 5.56% over Maya, thereby artificially inflating compensation. The compensation provisions of the Hamaca Association Agreement stipulate that compensation shall be calculated assuming Brent prices of US$ 27 per barrel (in 1996 dollars). The Respondent's experts made the required adjustments. (c) In respect of Corocoro, the Respondent's experts relied on data from June 2007 through December 2015 to calculate the average differential between Maya and Corocoro crude oil prices. This resulted in an average differential of 0.4%, which was applied to their price forecast through 2037. The Claimants' experts have applied the same prices in their *ex post* valuation of Corocoro.

690. The result of the differences in the Parties' respective price assumptions on the Claimants' *ex post* calculations with the compensation provisions is that the Claimants' valuation moves downwards from 8.518 to 7.625 billion. If, on the other hand, compensation for measures the Claimants accept as not being discriminatory is excluded, and when further proper production and cost data are used, as well as proper price assumptions, the relevant figure that has to be compared to the initial amount of 8.518 billion becomes 1.484 billion.

691. In their *ex ante* valuation, the Respondent's experts projected the quality differentials between WTI and the crudes from the Projects by using the price ratio included in the Composite Economic Model (CEM). The experts relied on a survey of 11 forecasts from reputable sources and they calculated the median of the WTI forecasts in order to arrive at their WTI benchmark forecast. Further, the Respondent's experts generated a price forecast for Maya, to which a price ratio of 77.8% used in the ConocoPhillips CEM is then applied in order to obtain the Project valuations. The Claimants' experts introduced in their *ex ante* valuation a 20% Maya-to-WTI discount. In so doing, they artificially inflated the Maya price forecasts and reduced the Maya-WTI differential. The Respondent's experts equally relied on the CEM to obtain the price ratio applicable to the Corocoro crude oil. This projection reports that the price of Corocoro crude will be traded at 106.7% to Maya. The Claimants' experts base their price ratio on ConocoPhillips unsuccessful bid for Corocoro crude oil in June 2008, retaining a trade at 102.7% to Maya.

3. *The Tribunal's Findings*

a. Petrozuata and Hamaca

692. The Tribunal has explained that it will determine the Claimants' loss during the historical period by reference to the actual oil prices that have been submitted through Witness Figuera's statement and the invoices filed by the Respondent and supported by documents piled up in various Appendices of Mr. Figuera's statements. It does not follow the Respondent's experts' view that the pertinent calculations may be impacted, in the case of Hamaca, by the compensation provisions of the Association Agreements, which do refer, indeed, to oil prices but do not determine their amount as it is derived from the oil market.

693. In order to assist the Tribunal's understanding of the documentary evidence, the Parties submitted jointly at the 2017 September hearing a table reproducing the prices each side retains on a year-by-year basis for the purpose of calculating revenue from the sales of oil at Petrozuata and Hamaca. This table reads as follows:

	Petrozuata CCO Prices (US$/Bbl)		Hamaca CCO Prices (US$/Bbl)	
	Claimants' Prices	Respondent's Prices	Claimants' Prices	Respondent's Prices
July-Dec. 2007	70.14	70.14	72.95	76.31
2008	87.38	87.38	89.37	91.40
2009	55.49	55.49	59.31	50.19
2010	70.38	70.38	74.08	70.32
2011	100.42	100.42	104.12	93.57
2012	101.39	101.39	105.18	99.40
2013	100.49	100.49	102.64	100.58
2014	88.44	88.44	90.92	86.49
2015	43.24	43.24	46.70	43.35
2016	38.55	32.01	40.70	29.46
2017	47.36	47.14	50.00	46.33
2018	53.43	53.08	56.40	52.16
2019	56.99	54.15	60.16	53.22
2020	59.14	58.02	62.43	57.02
2021	68.89	58.02	72.72	57.02
2022	70.15	58.02	74.06	57.02
2023	72.37	58.02	76.39	57.02
2024	74.34	58.02	78.48	57.02
2025	76.47	58.02	80.73	57.02
2026	77.81	58.02	82.14	57.02
2027	79.18	58.02	83.58	57.02
2028	80.57	58.02	85.05	57.02
2029	82.13	58.02	86.70	57.02
2030	83.79	58.02	88.45	57.02
2031	85.47	58.02	90.22	57.02
2032	87.18	58.02	92.03	57.02
2033	88.92	58.02	93.87	57.02
2034	90.70	58.02	95.74	57.02
2035	92.51	58.02	97.66	57.02
2036	94.36	58.02	99.61	57.02
2037	--	--	101.60	57.02

694. The Tribunal retains the numbers provided for Petrozuata for the years 2007 and 2008 as presented by the Parties on the basis of Mr. Figuera's first statement[509]. For the period 2009 to 2015 the prices have also been presented on agreed terms and will be applied by the Tribunal. As will be shown below, these prices are identical or very close to those calculated on the basis of the invoices submitted by Witness Figuera[510]. The Tribunal notes that the Claimants explain that their experts "determine the correct relationship between the Project crudes and observed benchmark prices for that historical period"[511]. The correct understanding is that these experts used the sales

[509] Table submitted at the 2017 September Hearing; Figuera Testimony, 20 July 2009, paras. 11/12.

[510] Table submitted at the 2017 September Hearing; Figuera Appendix 81 (for 2009-2013). Appendix 105 covers part of 2014, which is completed by Appendix 154 for this year and by Appendix 158 for 2015, both of which have not been introduced as evidence but for the purpose of information only.

[511] Claimants' Final Submission on Quantum, para. 306.

prices reported by Mr. Figuera for 2007/2008 and through the sample of invoices for the years 2009 to 2015, and that they use this pricing for Petrozuata until July 2016[512].

695. The figures reported by the Parties for Hamaca do not coincide. For the years 2007 and 2008, the Respondent relies again on Mr. Figuera's first statement[513]. The Claimants' prices are lower. While no explanation for this difference can be found for the year 2007, the Claimants' experts contend that actual sales prices could not be used "because the Project has been selling lower quality crude at a small discount to Maya since 2008, reflecting PetroPiar's managerial decisions since the expropriation". They conclude that this had the effect of lowering Hamaca syncrude prices, which – so they say – "in our understanding" would not have happened in a but-for scenario[514]. Therefore, the Claimants support prices higher than those actually invoiced between 2009 and 2015. The Claimants' experts have not relied on any evidence for their allegation. If the assumption had been that the Hamaca CCO suffered from a lowering of its API gravity, the information provided through the invoices (mentioned in the table on Hamaca below) demonstrates that this would be wrong. Between the major part of years of observation (2009-2013), the API gravity varied in irregular sequences between 20.62° and 22.64°, whereas actual sale prices moved from US$ 55.50 (2009) to 100.58 (2011) and ultimately 100.50 (2013); there appears to be no relation of causality between the two groups of figures.

696. The allegation of Respondent, based on its own experts' assertion that since October 2008, the Hamaca Project sold a lower-quality crude called Special Hamaca Blend is unsupported on the basis of the invoices to which the experts refer, where no such quality information is provided, nor its potential effect on price[515]. Moreover, the argument has no support in Mr. Figuera's allegations in respect of the quality of EHCO supplied and of the upgrader[516], all the more so as Mr. Figuera does not draw consequences in respect of oil prices from his unsubstantiated assertions[517].

697. The Respondent's explanations are less convincing than the numbers they are intended to confirm. In fact, the prices it presents for the years 2009 to 2015 are the same (subject to very minor

[512] CLEX-086, Revenues (PZ). The experts explain in their Consolidated Update Report, 17 November 2016, paras. 66-72, that they used benchmark forecast of world crude oil prices and Maya prices exhibited under CLEX-087. However, the figures provided in this exhibit are inconsistent with the actual prices that have been invoiced by the Projects and used by the same experts in their valuation. They added ultimately that they determined the relevant prices by using the historical market prices (para. 73), at least for Petrozuata.

[513] Table submitted at the 2017 September Hearing; Figuera Testimony, 20 July 2009, paras. 37/38.

[514] Abdala/Spiller, Consolidated Update Report, 17 November 2016, para. 73(c), adding in para. 165 that this was so "apparently". The experts' explanation is inconsistent for the year 2008, where they are recording prices lower than the actual sales prices on which the Respondent relies.

[515] Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, para. 288.

[516] Cf. Supplemental Testimony, paras. 64-79.

[517] Cf. TR-E, 2017 September Hearing, Day 18, p. 5164:21-5166:6 (Friedman).

differences caused by rounding and counting) as the average prices that can be derived from the invoices and the summary tables submitted at the end of the 2017 March hearing.

698. In respect of Hamaca, these invoices were originally compiled by the employees on the site at Mr. Figuera's request[518]. They provide the pertinent figures for each loading and the relevant totals per year, *i.e.* the volume of barrels sold and the price in US$ per year, together with the API gravity of each loading. From the total amount priced per year and the corresponding quantity of barrels the average price per barrel and per year can be calculated, as well as the yearly API gravity.

699. The Claimants' experts use a significant 20% Maya-to-WTI discount[519] for the purpose of reflecting "the market consensus about the heavy-light price differential in the crude oil market"[520]. They do not explain why this discount based on a lower oil price should be so high. There is a further element of speculation in the choice of forecast differentials between Brent and Maya between July 2016 and October 2016 only (generating a price forecast that is 13.65% lower than the Brent price)[521].

700. The Respondent's experts rely on the WTI and Maya differential they draw from the invoices for the period 2009 to 2015. Such differential, as it had been actually practiced during that period, was still a reliable marker for the pricing of oil from 2016 forward, as the Respondent's experts correctly submit[522].

701. The Claimants' experts' price forecast from 2016 is based on a sample of about 16 forecasts, from which a median is identified. The method as it has been applied raises a number of doubts, some of which have also been expressed by the Respondent. (1) Forecasts that are deviating in extreme proportions ("outliers") from the clear majority of forecasts should be eliminated, as they are manifestly not representative of the trend that needs to be identified. (2) Forecasts based on oil production in the region of the Projects should be included at a significant position; it is also not appropriate to disregard West Texas Intermediate (WTI) as the benchmark for an *ex post* valuation (and to replace it by an European index), but to adopt this benchmark for the *ex ante* valuation.

702. From another perspective, the Claimants' experts' position is placed in contrast to the real world of oil prices over 20 years. Indeed, the prices determined by the experts year by year lead to

[518] Figuera Appendix 42.

[519] Abdala/Spiller, Consolidated Update Report, 17 November 2016, para. 72.

[520] *Ibidem*, para. 65.

[521] *Ibidem*, para. 71. The experts explain confusingly that they used actual Maya prices observed on the market between June 2007 and December 2016, but that they had been unable to find a significant sample of long-term Maya to WTI differential forecasts as of June 2007.

[522] Cf. Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, paras. 286/289, further referring to their *Ex Post* Analyses and Projections Calculations as of 31 December 2016, Appendix 408.

a double increase that seems unrealistic. When 2020 is taken as a critical year (where the Respondent abstains from any further forecast), the Claimants' Brent prices increase year by year, at a pace that is not defined or explained. The natural course of price evolution is different: there are ups and downs that are then consolidated in an average that may show a line going up. Additionally, from year 2026, the Claimants' price coefficient also climbs up without interruption (for both Petrozuata and Hamaca): each and every increase from one year to the next is higher than the previous increase, thus rendering the increase exponential. The Claimants' submission that oil prices must be connected to inflation (US-origin for the experts) is overly simplistic. It suffices to observe a number of recent years when oil prices were moving whereas inflation remained stable in many countries.

703. In some respect, the Respondent's experts' position that no certainty is available as from year 2020 and that therefore a flat rate should be used until the end of each Projects' lifetime is interesting, or, as the Respondent puts it, "reasonable". All depends, however, what a "flat rate" means and how it is implemented. The Respondent's flat rate over 15 years is the rate identified for year 2020, *i.e.* US$ 58.02 for Petrozuata and US$ 57.02 for Hamaca. However, this is not the only method to determine a flat rate. In light of the need to fix a rate as closely as possible to the estimated future, a flat rate determined on the basis of an average over several years would certainly come closer to such goal. It may be difficult, as the Respondent's experts say, to identify such future rates year-by-year, but it appears highly artificial to suddenly stop the counting in 2020 and to take that year's figure as applicable for the coming 15 years[523]. It has also been said that keeping prices flat when costs are increasing is disturbing[524].

704. The Respondent's experts demonstrate that another approach is perfectly possible when they proceed with their *ex ante* valuation, where they identify prices increasing year by year until the end of each of the Projects, going up to US$ 71.48 for Petrozuata in 2036 and US$ 76.80 for Hamaca in 2037[525]. While it may be argued that these numbers are derived from the CEM and strictly related to an *ex ante* valuation, they nonetheless demonstrate that a valuation containing an increase in oil prices is possible, even if the underlying assumptions may be a matter for debate.

705. The Tribunal's conclusions develop as follows: (1) For the years 2007 to 2015, the prices experienced by the Projects' sales are the most reliable information about the revenues obtained under a but-for scenario. The Parties agree on the applicable figures for Petrozuata. The Tribunal retains the corresponding prices from the Hamaca sales, thus disregarding the Claimants' experts'

[523] This can further be demonstrated in comparison to the analyses the experts performed in 2013 (Appendix BF-010), where the flat rate started in 2018 at US$ 82.42 for Hamaca and at US$ 83.24 for Petrozuata. A year later, the flat rate was set to begin also in 2018, but at a price of US$ 72.75 for Hamaca and US$ 73.54 for Petrozuata (Appendix BF-215).

[524] TR-E, 2017 September Hearing, Day 18, p. 5161:6-13 (Friedman).

[525] CLEX-085, Revenues (PZ) and (HC).

allegation on lower quality of Hamaca oil that is not evidenced by the prices actually obtained by the Project. The experts also fail in their allegation that a but-for situation would have produced oil of higher quality, paid at higher prices. In this respect, the Tribunal also recalls that the prices to be retained determine the loss suffered by the Claimants and their right for compensation. Therefore, the burden of proof of the applicable and most reliable estimations rest with the Claimants.

Petrozuata CCO Prices and Sales 2007 - 2015 (US$/Bbl)					
	Claimants' Prices US$	Respondent's Prices US$	Barrels sold	Invoices US$	Price per Barrel Sold US$
July-Dec. 2007	70.14	70.14	15,568,593	1,091,900,000	70.13
2008	87.38	87.38	35,700,904	3,119,400,000	87.38
2009	55.49	55.49	33,197,701	1,842,584,901.38	55,50
2010	70.38	70.38	21,718,453	1,525,217,426.98	70.23
2011	100.42	100.42	24,114,978	2,425,577,496.25	100.58
2012	101.39	101.39	33,974,140	3,496,629,804.93	102.92
2013	100.49	100.49	29,660,975	2,980,831,978.58	100.50
2014	88.44	88.44	25,913,252	2,291,651,539.98	88.44
2015	43.24	43.24	22,213,048	960,435,949.07	43.24
1	2	3	4	5	6

Hamaca CCO Prices and Sales 2007-2015 (US$/Bbl)						
	Claimants' Prices US$	Respondent's Prices US$	Barrels sold	API Gravity	Invoices US$	Price per Barrel sold US$
2007 ½	72.95	76.31	28,939,154		2,208,400,000	76.31
2008	89.37	91.40	52,430,724		4,792,200,000	91.40
2009	59.31	50.19	39,845,387	22.64	1,999,276,756.27	50.18
2010	74.08	70.32	49,468,161	20.86	3,475,144,882.06	70.25
2011	104.12	93.57	47,449,859	21.26	4,439,787,139.08	93,57
2012	105.18	99.40	25,214,117	20.62	2,506,219,558.63	90.40
2013	102.64	100.58	47,131,231	21.69	4,740,565,039.75	100.58
2014	90.92	86.49	52,955,490	19.93	4,580,123,865.36	86.49
2015	46.70	43.35	51,287,407	19.68	2,223,505,411.11	43.35
1	2	3	4	5	6	7

706. (2) The Tribunal cannot agree with the adjustments or the price differentials proposed by the Claimants' experts for the years starting in 2016, which are again simply stated but not explained or supported by evidence. The prices provided by the Respondent must therefore prevail for the years 2016 to 2020.

707. (3) The Tribunal does not share the Respondent's position which relies on a flat rate based on the prices retained for year 2020 until the end of each Project's lifetime. In its own *ex ante* valuation, the Respondent accepts that oil prices do not remain fixed at an identical level over many years, a view that would be totally incompatible with basic notions of market and economics. In this valuation, the Respondent submits that between 2020 and 2036 or 2037, prices move from

US$ 52.07 to US$ 71.48 for Petrozuata and from US$ 54.85 to US$ 76.80 for Hamaca, which means an approximate year-by-year increase of US$ 1.17 for Petrozuata and US$ 1.22 for Hamaca. The Tribunal takes this as a valid assumption.

708. (4) For the years 2021 onwards, the Tribunal has as its only reliable evidence the numbers retained by the Respondent's experts up to the year 2020. It takes the figures for that year (US$ 58.02 for Petrozuata and US$ 57.02 for Hamaca) as the basis to be completed by an average increase per year of 1.20% for each Project. By reference to the tables used above, the end price would become US$ 77.22 for Petrozuata (2036) and US$ 77.42 (2037) for Hamaca.

709. (5) The Tribunal finds further support for its approach in the comparison between the average prices for the period 2007 to 2020 and from 2021 until the end of each Project on the basis of the Association Agreements. For Petrozuata, the average price for the first period is US$ 68.70 and for the second term US$ 68.22, whereas for Hamaca, the average for the first period is US$ 67.84 and for the second term US$ 67.82. This means that except for a very small difference, the overall average price per year for each Project, counted between 2007 and 2036/2037, is the same.

710. At this juncture, the Tribunal takes account in the presentation of the pertinent figures for prices and sales of the dates it determined for the end of production for each Project, *i.e.* 2026 for Petrozuata and 2036 for Hamaca.

Tribunal's Assessment of Oil Production for Sale and Prices						
	Petrozuata			Hamaca		
	MMB	Price per Barrel sold US$	Total Income US$	MMB	Price per Barrel sold US$	Total Income US$
2007 ½	15,568,593	70.14	1,091,981,113	28,939,154	76.31	2,208,346,842
2008	35,700,904	87.38	3,119,544,992	52,430,724	91.40	4,792,168,174
2009	36,200,000	55.49	2,008,738,000	58,400,000	50.18	2,930,512,000
2010	36,200,000	70.38	2,547,756,000	58,400,000	70.32	4,106,688,000
2011	36,200,000	100.42	3,635,204,000	58,400,000	93.57	5,464,488,000
2012	36,200,000	101.39	3,670,318,000	58,400,000	99.40	5,804,960,000
2013	36,200,000	100.49	3,637,738,000	58,400,000	100.58	5,873,872,000
2014	36,200,000	88.44	3,201,528,000	58,400,000	86.49	5,051,016,000
2015	36,200,000	43.24	1,565,288,000	58,400,000	43.35	2,531,640,000
2016	36,200,000	32.01	1,158,762,000	58,400,000	29.46	1,720,464,000
2017	36,200,000	47.14	1,706,468,000	58,400,000	46.33	2,705,672,000
2018	36,200,000	53.08	1,921,496,000	58,400,000	52.16	3,046,144,000
2019	36,200,000	54.15	1,960,230,000	58,400,000	53.22	3,108,048,000
2020	36,200,000	58.02	2,100,324,000	58,400,000	57.02	3,329,968,000
2021	36,200,000	59.22	2,143,764,000	58,400,000	58.22	3,400,048,000
2022	36,200,000	60.42	2,187,204,000	58,400,000	59.42	3,470,128,000
2023	36,200,000	61.62	2,230,644,000	58,400,000	60.62	3,540,208,000
2024	26,600,000	62.82	1,671,012,000	58,400,000	61.82	3,610,288,000
2025	22,100,000	64.02	1,414,842,000	58,400,000	63.02	3,680,368,000
2026	19,000,000	65.22	1,239,180,000	58,400,000	64.22	3,750,448,000
2027				58,400,000	65.42	3,820,528,000
2028				58,400,000	66.62	3,890,608,000
2029				58,400,000	67.82	3,960,688,000
2030				58,400,000	69.02	4,030,768,000
2031				58,400,000	70.22	4,100,848,000
2032				58,400,000	71.42	4,170,928,000
2033				58,400,000	72.62	4,241,008,000
2034				51,000,000	73.82	3,764,820,000
2035				47,000,000	75.02	3,525,940,000
2036				43,000,000	76.22	3,277,460,000
Total	661,969,497		44,212,022,105	1,682,369,878		112,909,071,016
1	2	3	4	5	6	7

711. The next and last step in this Section will consist of matching the sales figures for each Project with the costs as they have been assessed in the preceding Section, and to determine the Gross Revenue for each Project (before Royalties and Taxes). The resulting figures are as follows:

Tribunal's Assessment of Gross Revenue (Sales minus Costs, before Royalties and Taxes) for Petrozuata				
	Total Income US$	CAPEX US$ MM	OPEX US$ MM	Gross Revenue Total US$
2007 ½	1,091,981,113	85,813	103,458	902,710,113
2008	3,119,544,992	176,990	261,244	2,681,310,992
2009	2,008,738,000	126,705	312,822	1,569,211,000
2010	2,547,756,000	105,247	225,955	2,216,554,000
2011	3,635,204,000	317,270	272,644	3,045,290,000
2012	3,670,318,000	128,310	319,819	3,222,189,000
2013	3,637,738,000	136,055	309,302	3,192,381,000
2014	3,201,528,000	137,119	446,230	2,618,179,000
2015	1,565,288,000	216,321	856,509	492,458,000
2016	1,158,762,000	93,743	186,863	878,156,000
2017	1,706,468,000	117,195	378,367	1,210,906,000
2018	1,921,496,000	189,419	276,241	1,455,836,000
2019	1,960,230,000	179,057	269,267	1,511,906,000
2020	2,100,324,000	183,992	263,113	1,653,219,000
2021	2,143,764,000	207,488	265,831	1,670,445,000
2022	2,187,204,000	149,166	272,498	1,765,540,000
2023	2,230,644,000	46,148	276,601	1,907,895,000
2024	1,671,012,000	20,000	250,000	1,401,012,000
2025	1,414,842,000	20,000	220,000	1,174,842,000
2026	1,239,180,000	20,000	200,000	1,019,180,000
Total	44,212,022,105			35,589,220,105
1	2	3	4	5

Tribunal's Assessment of Gross Revenue (Sales minus Costs, before Royalties and Taxes) for Hamaca				
	Total Income US$	CAPEX US$ MM	OPEX US$ MM	Gross Revenue Total US$
2007 ½	2,208,346,842	116,921	208,678	1,882,747,842
2008	4,792,168,174	417,921	625,275	3,748,972,174
2009	2,930,512,000	421,527	626,917	1,882,068,000
2010	4,106,688,000	182,103	443,297	3,481,288,000
2011	5,464,488,000	146,174	567,437	4,750,877,000
2012	5,804,960,000	350,002	744,160	4,710,798,000
2013	5,873,872,000	202,096	640,228	5,031,548,000
2014	5,051,016,000	235,575	914,465	3,900,976,000
2015	2,531,640,000	259,470	1,878,100	394,070,000
2016	1,720,464,000	94,319	451,853	1,174,292,000
2017	2,705,672,000	212,485	818,610	1,674,577,000
2018	3,046,144,000	260,926	616,715	2,168,503,000
2019	3,108,048,000	191,493	637,071	2,279,484,000
2020	3,329,968,000	182,882	688,082	2,459,004,000
2021	3,400,048,000	201,976	615,406	2,582,666,000
2022	3,470,128,000	277,184	619,871	2,573,073,000
2023	3,540,208,000	274,767	665,126	2,600,315,000
2024	3,610,288,000	243,948	590,777	2,775,563,000
2025	3,680,368,000	253,423	681,333	2,745,612,000
2026	3,750,448,000	283,123	681,315	2,786,010,000
2027	3,820,528,000	382,615	742,818	2,695,095,000
2028	3,890,608,000	273,277	824,859	2,792,472,000
2029	3,960,688,000	269,743	764,453	2,926,492,000
2030	4,030,768,000	170,038	762,063	3,098,667,000
2031	4,100,848,000	92,271	836,037	3,172,540,000
2032	4,170,928,000	65,764	910,093	3,195,071,000
2033	4,241,008,000	53,674	848,821	3,338,513,000
2034	3,764,820,000	30,000	700,000	3,034,820,000
2035	3,525,940,000	25,000	600,000	2,900,940,000
2036	3,277,460,000	20,000	500,000	2,757,460,000
Total	112,909,071,016			85,514,514,016
1	2	3	4	5

b. Corocoro

712. The first step in the pricing analysis of Corocoro consists in determining the price of Corocoro oil over the Project's time:

Corocoro Pricing (US$/Bbl)			
	Claimants' Prices[526]	Respondent's Prices[527]	Price per Barrel sold[528]
2008	86.16	86.16	86.70
2009	56.40	56.40	56.63
2010	71.64	71.64	70.62
2011	98.60	98.60	97.16
2012	99.43	99.43	99.42
2013	98.68	98.68	98.55
2014	88.83	88.83	87.89
2015	41.83	41.83	42.09
2016	38.71	33.15	
2017	47.55	47.29	
2018	53.64	53.25	
2019	57.22	54.33	
2020	59.38	58.21	
2021	69.17	58.21	
2022	70.43	58.21	
2023	72.66	58.21	
2024	74.64	58.21	
2025	76.78	58.21	
2026	78.12	58.21	
2027	79.49	58.21	
2028	80.89	58.21	
2029	82.46	58.21	
2030	84.13	58.21	
2031	85.81	58.21	
2032	87.53	58.21	
2033	89.28	58.21	
2034	91.06	58.21	
2035	92.88	58.21	
2036	94.74	58.21	
2037	96.64	58.21	
1	2	3	4

713. The Tribunal notes that both Parties express the same position as to the pricing for Corocoro oil. They accept that for the period between 2008 and 2015 the actual oil prices as experienced with the sales that have been reported by Witness Figuera are to be used. The Tribunal retains the

[526] CLEX-086, Price.

[527] Brailovsky/Flores Appendix 406; *Ex Post* Analyses and Projections Calculations as of December 31, 2016, Appendix 408.

[528] Figuera Appendices 84-89, Brailovsky/Flores, Appendices 359, 360.

numbers jointly presented by the Parties, while noting that they are slightly different than the prices mentioned on the yearly summaries of the sales reported by Witness Figuera. The positions also became identical between the experts on both sides for the years from 2016. The Respondent's experts had derived from the data between July 2007 and 2015 an average differential of 0.4% between Maya and Corocoro crude oil prices that they applied to their price forecast[529]. For their 2016 valuation, the Claimants' experts understand that this figure reflects the "average historical differential" that they accept to apply as 0.4% premium over Maya[530]. The Respondent therefore noted correctly that the Claimants' experts apply the same method for pricing[531]. However, when looking at the figures reproduced in the summary tables of each experts' team, on which the further calculations in view of the assessment of damages are based, it appears that the numbers do not match. Taking first the numbers for the years 2016 to 2020, the Claimants' experts' figures[532] are always higher than those of the Respondent's experts[533], although both sides have declared that they used the same method, including the same Maya differential. The explanation detected by the Tribunal is the following: The Maya prices for each Party are different[534], and this results in different oil prices for the years 2016 to 2020.

714. The Parties' experts have admitted that the pricing for Corocoro oil follows very closely, if not identically, the prices applied to Petrozuata CCO. Therefore, the Respondent's experts' assessment that for the years 2016 to 2020 prices for Corocoro are in line with those for Petrozuata must prevail. This also means that the Maya differential used during the years 2008 to 2015 remains the same for the following years. Although the Claimants' experts affirm that they follow the same method, based on a 0.4% Maya differential, this is not correct as they take into account a different evolution of Maya prices.

715. As the Tribunal has found above in respect of the pricing for Petrozuata and Hamaca from 2020, it cannot follow the Respondent's choice of a flat rate staying constant until the end of the Projects. Such excessively artificial approach cannot determine the Claimants' losses. The most

[529] Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, para. 295; *Ex Post* Analyses and Projections Calculations as of December 31, 2016, Appendix 408.

[530] Abdala/Spiller, Consolidated Update Report, 17 November 2016, para. 73(c). However, the experts also explained that beginning 2010 or so, they took the differential between the Brent and the Maya; TR-E, 2017 March Hearing, Day 13, p. 3769:10-3770:17 (Abdala).

[531] Respondent's Final Brief on Quantum, para. 393.

[532] CLEX-086, Price.

[533] BF-406, Revenues (CR).

[534] For the Claimants' experts, the price for Maya is for each year from 2016 on: US$ 38.55, 47.36, 53.43, 56.99, 59.14 (CLEX-086, Price). For the Respondent's experts, the corresponding figures are: 33,02, 47.11, 53.04, 54.11, 57.97 (BF-406, Price Inputs). Based on each group of numbers, the prices as listed above result from the multiplication by the differential of 1.004.

reasonable assessment of the price forecast is the model retained by the Tribunal for these two other Projects, consisting of a 1.2% price increase per year until the end of the Project.

716. The next step is then to apply the correct figures for prices to the volumes of production determined above until the end of production of the Project Corocoro, which is in 2026.

Tribunal's Assessment of Oil Production for Sale, Prices and Costs at Corocoro

	MMB	Price per Barrel sold US$	Total Income US$	CAPEX US$ MM	OPEX US$ MM	Gross Revenue Total US$
2007 ½	0	0	0	116,743	22,289	- 139,032,000
2008	7,182,000	86.16	618,801,120	56,868	215,420	346,513,120
2009	11,483,000	56.40	647,641,200	5,465	200,112	442,064,200
2010	13,152,000	71.64	942,209,280	164,777	144,780	632,652,280
2011	13,214,000	98.60	1,302,900,400	14,500	166,923	1,121,477,400
2012	13,479,000	99.43	1,340,216,970		192,962	1,147,254,970
2013	13,336,000	98.68	1,315,996,480		170,578	1,145,418,480
2014	12,839,000	88.83	1,140,488,370		234,309	906,179,370
2015	12,069,000	41.83	504,846,270		353,720	151,126,270
2016	11,027,000	33.15	365,545,050		75,608	289,937,050
2017	11,204,000	47.29	529,837,160		153,276	376,561,160
2018	9,411,000	53.25	501,135,750		114,793	386,342,750
2019	8,444,000	54.33	458,762,520		110,604	348,158,520
2020	7,747,000	58.21	450,952,870		108,018	342,934,870
2021	7,205,000	59.41	428,049,050		106,947	321,102,050
2022	6,765,000	60.61	410,026,650		109,044	300,982,650
2023	6,268,000	61.81	387,425,080		109,810	277,615,080
2024	5,741,000	63.01	361,740,410		111,412	250,328,410
2025	5,508,000	64.21	353,668,680		113,488	240,180,680
2026	5,297,000	65.41	346,476,770		115,564	230,912,770
Total	181,371,000		12,406,720,080			9,118,710,080
1	2	3	4	5	6	7

IX. Royalties and Taxes

A. <u>General Observations and Findings</u>

717. The taxation regime in Venezuela raises one of the key issues during the negotiation and the economic life of the Projects. Many different taxes have been introduced or raised prior to the expropriation. They constitute for the Claimants a series of coercive measures which, they submit, together with the forced migration, represent a bundle of discriminatory actions triggering their right for the compensation they claimed in the ICC Arbitration from PDVSA.

718. Before this Tribunal, the Claimants' claim is based on the violation of Article 6 of the BIT by the Venezuelan Republic. The taxation regime constitutes in this context a part of the economic life and value of the three Projects. Its impact on the valuation of the Claimants' loss and their

claim for damages is important and now has to be addressed. The compensation provisions of the Petrozuata and Hamaca Association Agreements do not govern the Claimants' right for compensation that they claim is based on the Treaty. However, these provisions may have a role to play in case certain taxes constitute discriminatory actions triggering a right for compensation that might counterbalance the impact of such taxes.

719. The valuation experts on both sides have each established a list of all royalties and taxes they consider applicable since 26 June 2007 or at a later date; they also rely on their respective Party's position[535]. The Tribunal will therefore account for the following taxes and contributions:

(1) Royalties and Extraction Tax, both together operating as a royalty at a rate of 33.33%[536].
(2) Export Tax of 0.1% taken from the revenues of oil sold for export.
(3) Science and Technology Contribution of 2% taken from the prior year's revenue from the sale of crude oil, reduced to 1% with effect as from 2012.
(4) Anti-drug contribution of 1%[537].
(5) Social Contribution of 1% of the previous year's net income before taxes[538].
(6) Income Tax of 50% applicable to each Project's revenue (less royalties and other applicable taxes and contributions).
(7) Sports tax of 1% accounted as from 2012.

In sum, the royalties and contributions (1) to (5) operate before the Income Tax (6) which applies when these prior contributions have already been deducted.

720. A further precision relates to the determination of the base price to which the royalties and the extraction tax apply. These disbursements are not computed like all other contributions (2 to 5), including the sports tax (7), and income taxes (6). They are fixed by reference to the quantity

---

[535] Cf. Abdala/Spiller, March 2016 Update, 18 March 2016, para. 28; Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, paras. 140, 341. Cf. also the Tables submitted by the Claimants on 20 March 2017.

[536] The Respondent's experts state that the Projects "would have been" subject to a "Special Advantage" tax to be calculated in relation to the amount of royalties, taxes and contributions paid, but their explanation lacks precision and has no documentary support (cf. Consolidated Expert Report on Valuation, 17 November 2016, para. 140/g, further noting that this tax would not apply to Hamaca, cf. footnote 322). This tax seems to be comparable to the "Shadow Tax" noted by the Claimants' experts, but not explained either, nor supplied by any reference to legal or other sources (Abdala/Spiller, Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014, para. 251/d).

[537] The Claimants' experts do not account for the 1% anti-drug tax to the Hamaca Project, providing no reason (Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014, footnote 290). The Respondent's experts refer to the Organic Law Against the Illicit Trafficking (BF-55), Article 96, that does not provide for such an exception (Consolidated Update Report, 17 November 2016, footnote 300). The difference in treatment appears in the CEM (LECG-085, p. 14/15/pdf).

[538] The Tribunal will take it a little bit simpler and count for this tax by reference to the income of the same year.

of barrels extracted, identified as EHCO in the case of Petrozuata and Hamaca[539]. The rate of 33.33% applies to the volume and value of EHCO used for upgrading to heavy syncrude (CCO). For the purpose of determining such value, a EHCO reference price (also called "royalty price") was fixed and published by the Ministry of Energy and Petroleum ("MENPET") on a monthly basis, in accordance with a complex formula contained in a governmental resolution. The experts on each side have noted this method used for collecting the royalty and extraction tax of 33.33%[540]. However, for the purpose of determining the applicable production volumes and the prices to be applied in this regard, they have relied on their own estimations, resulting in divergent projections of calculations of the ensuing royalty and extraction tax. Moreover, the impact of the Windfall Profit Tax must also be considered in this regard. This matter will have to be examined more closely when the latter tax is analysed.

721. For Corocoro, the experts on both sides mention a "PEG Tax" equal to 50% of the annual operating income. However, none of the experts went beyond the definition of the rate under Article I of the Association Agreement. Such rate would need to be examined and determined on the basis of Article 9 of the Association Agreement's Accounting Procedures, which have not been looked at by any expert. Without such an analysis, accounting for a PEG rate would be pure speculation.

722. The Parties and their experts are at odds about the applicability of the Windfall Profit Tax that was introduced in 2008 and amended since then several times. While this legislation will be examined closely below, another argument of the Respondent can be disposed of now. Indeed, it is argued that the Government had the power and would certainly have decided to exercise it for the purpose of taking additional fiscal measures or any other measure taking away from the foreign partners in the Projects any profit considered as excessive[541]. This position lacks any serious evidentiary support. There is no need to recall in detail Venezuela's political position during the negotiations of the Association Agreements to protect its sovereign right to take away excessive revenues from the investors. This right was expressly mentioned in the Congressional Authorizations. The compensation provisions were the result of the bargain that was at the centre of the debate between the Parties. These provisions were a reaction to the Government's position to raise taxes when it considered it was not able to share sufficiently in the profits resulting from increasing oil prices. As will be explained below, this had been done through the Windfall Profit Tax. Therefore,

[539] The documentation shows that a distinction had been made between "EHCO Production" and "EHCO Fiscalized Production". The Tribunal's limited documentary evidence does not allow applying such distinction in a consistent manner. It is certain, at least, that the differences in quantity and value are relatively small.

[540] Cf. Abdula/Spiller, Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, Appendix D, para. 34; Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, para. 140(a), further noting that the formula to be used for the calculation of the reference price was set up in the Ministry Resolution No. 3 dated 11 January 2007, Article 5(e) (Expert Report on Valuation, 18 August 2014, footnote 322, BF-43). The monthly publications from the Ministry have not been filed with the Tribunal.

[541] Cf. Respondent's Counter-Memorial on Quantum, para. 138; Respondent's Final Brief on Quantum, para. 263.

there is no point in arguing that more has to apply, based on political declarations, including Dr. Mommer's statements, that have all been made before the Windfall Profit Tax was first enacted. The Respondent knows and must accept that nothing more than the Windfall Profit Tax has been implemented for that purpose and that anything beyond these measures is pure speculation, for today and for the foreseeable future.

B. The Windfall Profit Tax

1. The Legal Structure

723. The payment of a "Special Contribution for Extraordinary Prices in the International Hydrocarbons Market", called "Windfall Profit Tax" or "Special Contribution" was enacted for the first time in 2008, by Decree No. 8.807 of 15 April 2008 (R-500, C-252/582). It applied to export or transportation of liquid hydrocarbons abroad when, in respect of any month, the average price of Brent crude exceeds US$ 70 per barrel. The tax was assessed as US$ 0.50 for every dollar that this average price exceeded US$ 70. When this reference price exceeded US$ 100, the tax went up to US$ 0.60 per dollar. The special contribution had to be paid to the National Development Fund (FONDEN). It was to be counted as costs for the purposes of calculating income tax; this means that it was to be accounted like a royalty.

724. Decree No. 8.163 of 18 April 2011 restructured the windfall tax (R-501, C-587). By reference to a price fixed in the Budget Law, 20% (0.20 per dollar) were to be paid as tax up to a threshold of the monthly average (extraordinary) price of Venezuelan liquid of US$ 70 per barrel. When prices were greater and became "exorbitant", but lower than US$ 90 per barrel, the tax went up to 80% for any price between these two amounts, and it went further up to 90% within a margin of US$ 90 to US$ 100, and 95% in respect of any amount above US$ 100.

725. Effective on 21 February 2013, Decree No. 40.114 modified again the payment structure (R-502, C-600). The initial rate of 20% went up from the Budget Law price to US$ 80 per barrel (extraordinary price). From there, when prices became higher and were considered to be "exorbitant", a tax of 80% applied up to the threshold of US$ 100, and above, 90% applied up to the level of US$ 110. When prices went higher, equal or greater than US$ 110, the tax rate was 95%.

726. Decree No. 8.807 of 15 April 2008 (Art. 2) and the Decree No. 8.163 of 18 April 2011 (Art. 13) provided for the possibility of an exoneration on the part of the National Executive "in favor of certain exports within the framework of political economy and international cooperation". Decree No. 40.114 of 20 February 2013 confirmed two cases of exemption mentioned in the 2011 Decree in a slightly modified drafting: (1) In case the oil production results from the implementation of new reservoir development projects, as well as volumes associated with recovery or upgrading projects, or with production remediation projects, declared as such by the Ministry of the

Popular Power with authority in the areas of petroleum and mining; (2) the exportation of volumes in implementing International Agreements of cooperation or financing.

727. A further point of general interest relates to Article 14 that was introduced by Decree No. 8.163 of 18 April 2011 and which reads as follows:

> In order to guarantee the achievement of the purpose of this Decree-Law, a maximum price limit for the calculation and settlement of Royalties, Extraction Tax and Export Registry Tax set forth in the Organic Law of Hydrocarbons is established at the quantity of seventy dollars per barrel (70 US$/bl).

The effect of this provision was that royalties and extraction tax were not collected to the extent their reference price went above the limit of US$ 70. For any revenue obtained through prices above this amount, the windfall profit tax became the substitute to the payment of royalties and extraction tax. Decree No. 40.114 of 21 February 2013 raised the maximum price limit from US$ 70 to US$ 80. This provision was not noticed by the Claimants or their experts. The Respondent's experts have mentioned that above US$ 70, the royalty and extraction tax have been substituted by the new assessment provided for through the windfall profit tax legislation[542]. Witness Figuera had noted in respect of Corocoro that with effect as of mid-April 2011, the royalty price was reduced to US$ 70; similarly, the limit went up to US$ 80 as of March 2013 when the Decree's revision of 2013 entered into force[543]. The Tribunal has not been informed that any change has been made to Article 14 of the WPT Law since 2013.

2. *The Claimants' Position*

728. The Claimants note that Venezuela enacted the so-called "windfall profit tax" (WPT) less than a year after its expropriation of the Projects. Venezuela contends that in evaluating the expropriated investments as of the date of the Award, the Tribunal should take into account any post-nationalization events that have a negative impact on value, such as increased taxes.

729. The Claimants' experts have factored into their cash flow forecasts several taxes of general applicability enacted by Venezuela since its unlawful expropriation. International law requires, however, that the WPT be disregarded, for two main reasons: (a) First, the effect of this special post-expropriation levy was to take away the benefit of much of the increase in value of the investment due to improved market conditions (essentially higher oil prices) between the dates of

[542] Brailovsky/Flores, Expert Report on Valuation, 18 August 2014, paras. 205/206; Second Expert Report on Valuation, 7 January 2015, para. 192. Cf. BF-406, Revenues.

[543] Third Supplemental Testimony, 15 August 2014, para. 104, Table 6, further referring to PetroSucre's Tax and Royalty Statement for 2011, where the impact of the royalty price reduction to US$ 70 is recorded (Appendix 84). See also the Statements for 2012 and 2013 (Figuera Appendices 88 and 89).

expropriation and valuation. It is precisely this increase in value that international law reserves for the Claimants in the case of unlawful expropriation. Under international law, States cannot rely on value-depressing measures enacted after a taking to reduce their compensation obligation, particularly where the effect would be to deny the investor the benefit of a date-of-award valuation. (b) Second, and in any event, on the specific facts of this case the WPT cannot be applied, because: (i) the Claimants could have enjoyed an exemption from the application of this special law, just as PDVSA has done; and (ii) the application of this levy to the Claimants' Projects would result in unequal treatment, in breach of Article 4 of the BIT. Each one of the foregoing reasons leads to the same conclusion: the Tribunal should not artificially reduce Venezuela's compensation obligation by assuming the application of this special post-expropriation levy to the Projects in the but-for world.

730. Venezuela must provide full reparation to compensate the Claimants for the unlawful expropriation of their investments. In such a case, the expropriator's responsibility must be increased by the fact that his action was unlawful. A date-of-award valuation ensures that, where there is an unlawful expropriation, any increase in value since the date of expropriation is retained by the injured investor and not diverted to the breaching State. Venezuela should not be rewarded for depriving the Claimants of the benefit of improved market conditions since the date of expropriation.

731. The Claimants contend that Venezuela seeks to negate the Tribunal's holding on the occurrence of an unlawful expropriation by applying the WPT to the expropriated Projects in the but-for-world. The Claimants' experts concluded that the WPT would have reduced the value of the Projects by US$ 4.4 billion. Based on the valuation presented by the Respondent's experts, the reduction would be equal to 49%. The effect produced by Venezuela's position is even clearer when one observes that its date-of-award valuation of US$ 1.463 billion is lower than its date-of-expropriation valuation of US$ 1.872 billion. Venezuela attempts to subvert the principle of full compensation through the application of the WPT, and thereby to reach an outcome even worse for the investor than one resulting from a lawful taking. To allow Venezuela to insulate itself in this manner from the consequences of its own wrongful actions would be perverse. It would allow any State that committed an unlawful expropriation to avoid the financial consequences of its acts by subsequently taxing away the very increase in value to which the investor is entitled under a date-of-award valuation.

732. The Claimants also mention that recently, the tribunal in *Yukos* confirmed that the victim of an unlawful expropriation "must enjoy the benefits" and receive the value that any improved market conditions may have added to the expropriated asset up to the date of the award[544]. Venezuela relies on another part of the *Yukos* award, where the tribunal considered the likelihood of

[544] *Yukos Universal Limited (Isle of Man) v. The Russian Federation*, PCA Case No. AA 227, Final Award dated 18 July 2014 (R-425).

future rate increases for certain existing taxes and duties in connection with its assessment of pre-award damages. However, the award noted that prior to the expropriation (a) the investor had already been paying those taxes, and (b) their rates had increased several times, which made similar rate increases likely in the future. That situation is radically distinguishable from the facts here. It is an altogether different proposition that under international law Venezuela can keep for itself billions of dollars that market conditions added to the Claimants' investments after the expropriation.

733. The Claimants' also submit that their damages in any event cannot be reduced on account of the WPT because in the but-for world the Claimants would have enjoyed an exemption from the application of this special levy, just as PDVSA and other companies have done.

734. First, the WPT Laws have excluded from their scope any exports to States with which Venezuela has entered into "international cooperation or financing agreements". The list of Exempt States is extensive. Thus, in the but-for scenario, the Projects would have directed their exports, if necessary, to one or more Exempt States to bring those exports within the scope of the exemption. Press reports indicate that PDVSA avoided US$ 11.2 billion of WPT in 2013, suggesting that 57% of PDVSA's exports were exempt from the WPT Laws pursuant to Article 12.2. Venezuela's International Agreements with Exempt States such as China and Russia have created joint ventures that are guaranteed an Article 12.2 exemption from the 2011 WPT Law. These same joint ventures are also accorded "fiscal incentives". Venezuela has not produced information in this respect, but press reports indicate that they may include exemptions from the 2011 WPT Law.

735. Second, the 2011 WPT Law excludes from its scope any exports from projects engaged in "enhanced oil recovery" (EOR), and this without time limitation (that was removed through the 2013 amendment of the law). The Claimants could and would have sought to implement EOR technology at both the Petrozuata and Hamaca Projects, in particular "Steam Assisted Gravity Drainage" (SAGD). PDVSA itself has recognized the value of such technologies. PDVSA subsidiaries and a large number of *empresas mixtas* have benefited from this exemption for EOR.

736. Third, the Projects could have significantly reduced their potential exposure to the WPT by selling production locally in Venezuela.

737. Fourth, the Projects could have reduced their exposure to the WPT by making "royalty in-kind" payments, by paying volumes of hydrocarbons towards royalties owed. Petropiar (Hamaca) had apparently benefited from such payments.

738. The Claimants' submission is that their position is strengthened further by Venezuela's conduct in the disclosure phase, when it refused to produce all responsive documents relating to

the WPT exemptions and how they have been applied. It is clear that PDVSA, and *empresas mixtas* have all been able to escape in significant part any application of the WPT Laws.

739. The Claimants note that Venezuela does not deny that they may have applied for certain exemptions, but that its answer is simply that this is speculation and that Venezuela would never have granted exemptions to the Claimants after they had refused to migrate in the mixed company regime. For the Claimants, this argument is unavailing. (a) Exemptions are not to be "granted". Once the Claimants complied with the requirements, they would have been entitled to the relevant exemptions by operation of law. (b) Venezuela's argument that the relevant exemptions could only be enjoyed by the mixed companies is incorrect. It follows from the text of Article 12.2 of the WPT Law that the exemption contained therein applies to any export to one or more Exempt States. Venezuela's suggestion that it would have penalized the Claimants and denied them one right because they refused to surrender another one lacks any integrity. In sum, in the but-for world the Claimants could – and rationally would – have been able to take advantage of the various exemptions from the application of the WPT.

740. Finally, the Claimants affirm that it is common ground that the WPT is subject to the provisions of Article 4 of the BIT, which ensures that, with respect to any tax or exemption thereto, it will not accord more favorable treatment to its own nationals (National Treatment) or the nationals of third States (MFN). Given that PDVSA (and its affiliates) and other enterprises have all been able to enjoy an exemption from the application of the WPT, Venezuela's position in this arbitration would result in the Claimants being accorded less favorable treatment. In such a case, the unlawful conduct of the State must be disregarded for valuation purposes.

741. The many exemptions provided under the WPT demonstrate a *prima facie* case of discrimination, which shifts to the State the burden to prove that no discrimination has taken place. Venezuela cannot discharge that burden here, in particular given its manifestly incomplete production of documents.

742. First, Venezuela argues that the Claimants were not in "like circumstances", given the fact that they had "a unique contractual framework". This argument collapses when compared to the law. When complying with the requirements, the Claimants would have been entitled to an exemption from the WPT by operation of the law. There is no distinction between entities operating based on a contract or entities controlled or owed by the State or a State-owned company. Venezuela has no difficulty in taking the position that the Claimants are subject to the WPT, despite their special "contractual" grounding, but it then relies on the same argument for its position that the Claimants are not subject to the law's exemptions.

743. Second, Venezuela argues that the WPT would put the Claimants in a less favorable position than the terms of the Association Agreements. The simple answer is that the statute does not

make any difference depending on the contractual arrangements of a concerned entity. Venezuela cannot apply the statute differently to different investors.

744. Third, Venezuela contends that the Claimants cannot show a preferential treatment based on nationality, because both Dutch and non-Dutch investors received windfall profit tax exemptions. This proposition ignores the very purpose of the MFN standard, which is to protect all investors from discriminatory treatment. A State simply cannot immunize itself from liability by discriminating against some but not all investors.

3. The Respondent's Position

745. The Respondent opposes the Claimants' position that their claim entitles them to the benefit of post-expropriation increases in value, and that the taxes would deprive them of such benefit. Nothing in the *Chorzów* decision or anywhere else grants the Claimants immunity from fiscal charges or other post-expropriation events that they do not like. The windfall profits taxes enacted by Venezuela are a legitimate and valid exercise of sovereign taxing authority. Changing circumstances in the international oil industry have prompted governments all over the world to enact fiscal and regulatory changes, including windfall profit taxes, to respond to dramatically increasing oil prices. There is no merit to the Claimants' allegations that Venezuela is trying to "insulate" itself and "negate" the effects of the Tribunal's ruling on unlawful expropriation by applying the windfall profits taxes in its valuation. The Claimants also accuse the Respondent of enacting these taxes specially to reduce the valuation in this Arbitration, but the laws were obviously not enacted for that purpose. The fact is that the new tax had a broad scope of application in the country's oil sector and that Venezuela has collected approximately US$ 12 billion of such taxes in the period 2008 to 2013.

746. The 2011 and the 2013 amendments of the Law contained certain categories of exemptions for (i) activities related to the execution of new projects, (ii) activities to increase production by enhanced recovery in ongoing projects, (iii) export volumes in implementation of international cooperation or financing agreements, and (iv) remediation activities. Exemptions must be approved in each instance, subject to the discretion of the Ministry of Petroleum. A 2013 Ministry directive clarified that (i) base production from ongoing production of existing wells is not eligible for exemptions; (ii) only the volumes of production that result from enhanced recovery activities (including new wells) are eligible for exemptions; and (iii) maintenance activities do not qualify as exemption (R-503, C-615). The Claimants' projects were obviously not eligible for exemptions under the "new" projects category. Exemptions for enhanced recovery or remediation activities were limited to the specific portion of production resulting from such activities; an exemption would not apply to the Projects as a whole. The Claimants' assertions that they could have modified their operations in order to be exempted for "new projects" categories are mere speculation.

747. There is no basis to expect that the Claimants would be granted any exemptions from windfall profits taxes. Having refused to migrate, it is not credible to assume that they would have nevertheless been granted exemptions from windfall profits taxes. The Claimants' argument that in such a case, they would be discriminated against in violation of Article 4 of the Dutch Treaty is unavailing. This provision addresses nationality-based discrimination between investors who are in like circumstances. In the absence of such discrimination, there is no violation. The essential factor is being placed in "like circumstances," when the treatment of a host State national or of a third State national is compared. It is the Claimants' burden to establish all elements of the test. The Claimants did not establish their hypothetical Article 4 claim under anyone of the required elements. They cannot show that the allegedly preferred investors were similarly situated. Thus, merely engaging in activities in the hydrocarbons industry, for instance, is not sufficient. The Claimants cannot be compared to investors engaged in new projects that are in the initial stages, nor can they be compared to investors in old projects. The Claimants had a unique contractual framework, created under the entirely different, pre-migration regulatory framework. None of the mixed companies has compensation provisions in their contracts such as the ones in the Association Agreements.

748. The Claimants cannot demonstrate that the windfall profits tax exemptions made other projects more favorable than the terms of the Association Agreements. In any event, the Claimants have made it quite clear that they did not want to accept the migration. They cannot show the allegedly preferential treatment applied on the basis of nationality. On the contrary, the record is clear that both Dutch and non-Dutch investors received windfall profits tax exemptions. Further, different treatment does not violate MFN or national treatment obligations if there is an objective, rational basis or policy justifying the treatment. The petroleum industry is of critical importance to Venezuela's economy. It was both rational and legitimate for the State to use fiscal incentives as a method of ensuring the vitality of that sector. Finally, MFN obligations are "without prejudice to the freedom of contract". Just as the Claimants obtained unique contractual arrangements, other investors may obtain other arrangements, and the State does not thereby violate MFN or national treatment obligations.

749. The Respondent notes that the Claimants have no answer to the fact that, as testified by Dr. Mommer, if the 2007 Nationalization had not occurred, the Government would have, and legally could have, taken additional fiscal measures to increase "government take". That is what Dr. Mommer had in mind when he described the compensation mechanism as a "contractually defined boundary for excess profit taxation". To compensate the Claimants as if they were immune from such measure would not be a "but-for" world exercise; it would be endowing the Claimants with benefits they never dreamed of obtaining when they entered into the Projects. Another limit is

accepted: "The Government has the right to introduce fiscal measures provided that they are not expropriatory"[545].

750. In sum, the Claimants argument on the windfall profits taxes is both factually incorrect and legally unsustainable on multiple grounds. The Claimants' entire argument on this issue misses the main point, which is that not only would the windfall profits taxes as they were enacted have been applied in the Claimants' "but-for" world, but the Government undoubtedly would have exercised its full sovereign rights to enact additional taxes to capture all excess profits resulting from high oil prices, up to the limit established in the compensation mechanisms established by the price caps agreed for the upgrading projects. While the Tribunal can assume that the State would not have exceeded those limits, thereby triggering the State company's indemnification obligation, it can also safely assume that the State would not have favored the associations that did not wish to accept the new mixed company structure with any more favorable tax treatment than was bargained for at the outset of those projects.

4. *The Tribunal's Findings*

751. The Tribunal shares the Claimants' view that a date-of-award valuation must ensure that, where there is an unlawful expropriation, any increase in value since the date of expropriation is retained by the injured investor and not diverted to the breaching State. The Claimants should not be deprived of the benefit of improved market conditions. However, such a broad statement mixes the notions of value and benefit. The Claimants argue as if gross revenue alone counts; they do not take account of any decrease in value occurring since the date of expropriation, remaining immune from increase in costs, and ignoring completely any variation in the tax regime.

752. The Tribunal recalls that the expropriation effective on 26 June 2007 was directed against the Association Agreements governing each of the three Projects. The content of the taking was composed of the laws and obligations enshrined in these foundations of the Projects. This necessarily means that any provision relevant for identifying the taxation regime of the Projects is part of what has been "taken", with the effect that the aggrieved party claiming compensation cannot claim more than what it was expected to receive on the basis of the relevant Association Agreement.

753. Since the time of negotiation of the Association Agreements, it was settled that the Government accepted to reduce under certain conditions and within limits that were matter of debate between the Parties the applicable royalties, governmental contributions and taxes. In the framework of the compensation provisions of the Association Agreements relating to Petrozuata and Hamaca, it was clearly established during the negotiations and within express clauses of the

[545] TR-E, 2017 February Hearing, Day 6, p. 1635:9-11 (Kahale).

Congressional Authorizations that the Venezuelan Government remained completely autonomous in the exercise of its sovereign power, including in particular its power to fix the tax regime of the partners in the Association Agreements[546].

754. Therefore, the Tribunal finds that modifications in the tax regime based on the Government's sovereign power were included in what is called the but-for phase of the Projects, subject to potential compensation under the appropriate provisions of the Petrozuata and Hamaca Association Agreements.

755. Additionally, it had also been made clear during the negotiations that the Government's ability to increase the tax burden of the Projects was directly connected to the increase in oil prices. The Government will have its part of the increase in profit resulting from more favorable market conditions for the sale of oil. Even if the Tribunal accepts the Claimants' assertion that, as victims of an unlawful expropriation, they were entitled to enjoy the benefits of the Projects including those resulting from improved market conditions, these benefits did not include a complete release from any increase in the tax regime. Quite the contrary. Such increase in taxes was part of the but-for scenario, as it was also part of an *ex ante* valuation (subject to the difficulty of estimating the increase of taxes to be expected).

756. The Tribunal further notes that the Claimants' position that they were victims of a new tax regime which specifically targeted them for the purpose of reducing their aspiration for compensation resulting from increased oil prices since 2007 does not find support in the legislation and its practical application, nor in the Parties' respective positions in this proceeding. The Government's policy had been clearly communicated to them at that time: The objective was to offer a tax incentive for Development Projects and operators increasing their production until they have recovered their investment[547]; this does not imply a target directed against the Claimants. The Respondent has produced a PDVSA 2013 Management Report demonstrating that over the years 2008 to 2013, an amount of US$ 12,280 million had been collected as Special Contribution under the WPT Laws, with an average of around US$ 3,5 million in the years 2011 to 2013 (R-499). PDVSA's Financial Statements for the years 2011-2013 note amounts in millions of US$ 13.247 (2011), 14.994 (2012)

[546] For instance, Condition Sixteen of the Congressional Authorization of the Petrozuata Project (C-10A, R-21/92) provided that the provisions of the Association Agreement, and in particular its regime for compensation in case of discriminatory treatment, shall be "without prejudice to the sovereign right to legislate inherent in the very existence of the national, state and municipal legislative branches". The corresponding Authorization for Hamaca stated in its Condition Nineteen: "The Association Agreement, the creation and operation of the Entities and other activities shall not impose any obligation on the Republic of Venezuela or restrict its exercise of sovereign rights, …" (R-93, C-132).

[547] Cf. Minister Ramírez quoted in a PDVSA report of April 2011, C-589; Reuters articles of the same time, C-588, C-590.

and 10,435 (2013)[548]. The Claimants did not object to these figures. If the WPT were directed directly against the Claimants, the PDVSA Offering Circular of 8 November 2013 could not be written without any indication of such purpose. The Circular explains[549] that about US$ 60 million had been funded as social contribution between 2010 and June 2013; this amount is far above what would have been expected as the three Projects' contribution.

757. The Claimants argue correctly that the issue is whether Venezuela could reduce its liability for a wrongful act on the basis of another wrongful act[550]. However, in answering this question in the negative, it is by no means established that the WPT was a wrongful act. The foreign investor entered into a contractual relationship that had as its very basis the possible increase in taxes resulting from increasing oil prices, combined with the relief for compensation in case of a discriminatory action. The Claimants cannot claim the benefit of increasing oil prices after the expropriation while refusing the State's increase of taxes, which may trigger the compensation mechanism, agreed between all partners specifically for such a situation. The rates applicable under the WPT Laws were far below a level where they would have deprived the Claimants of the profit resulting from increasing oil prices. The situation was also considerably less dramatic given the fact that the amendment of 2013 had the effect of reducing the tax burden of the oil companies[551]. Finally, because the WPT was treated as a royalty and not as an income tax, it had the effect of reducing the latter tax by 50%; its financial impact was therefore reduced to half of its nominal terms[552]. The impact of the WPT was also softened by the effects of Article 14 (not observed by the Claimants), reducing the royalty reference price to US$ 70, and later US$ 80.

758. When the Claimants mentioned in their Memorial submitted on 15 September 2008 the first version of the WPT[553], as approved on 15 April 2008, they did not contend that the new tax had for its purpose to capture any future compensation owed to the investors in the three Projects. Such an intention appears all the more so artificial in light of the fact that at that time ConocoPhillips

[548] PDVSA, Consolidated Financial Statements, 2013, 2012, 2011 (C-616, p. 38/pdf). The contribution for 2010 was US$ 392 million; PDVSA, Consolidated Financial Statements, 2012, 2011, 2010 (C-562, p. 41). The respective amounts for 2008 and 2009 were US$ 14,733 and 1,865 million; PDVSA Annual Report 2009, p. 794; this Report contains a list of the projects supported by FONDEN in 2009 (p. 801). The PDVSA Annual Report for 2015 (CLEX-090) contains a list of all annual contributions to FONDEN from 2006 to 2015; the numbers for 2014 are US$ MM 10.400 and for 2015 US$ MM 976 (page 92).

[549] C-610, p. 10, 30, 41, 90.

[550] Cf. TR-E, 2017 September Hearing, Day 18, p. 5179:9-5186:17 (Partasides).

[551] The effect of this decrease was explained in PDVSA's Offering Circular of 8 November 2013 (C-610, p. 4, 35); the decrease between the first six months of the years 2012 and 2013 was US$ 3,810 million (from 6,447 to 2,637).

[552] Therefore, there is no point in claiming that Venezuela introduced a selective tax that attempted to transfer the billions of value of the investment to itself, thus rendering the concept of unlawful expropriation meaningless; TR-E, 2017 March Hearing, Day 15, p. 4387:14-20, 4388:5-10 (Friedman).

[553] Memorial, paras. 253/254.

and the Venezuelan Government were still involved in trying to negotiate compensation for the expropriation that had taken place on 26 June 2007, thus avoiding an arbitral proceeding that had been launched by the Claimants on 2 November 2007[554].

759. The Claimants correctly submit that exports to States with which Venezuela has entered into "international cooperation or financing agreements" would have been an opportunity for exclusion from the WPT Laws. The fact is, however, that no such agreement had been concluded that could have attracted export of oil from the Projects to one of the exempted States. And as the examples of Russia (C-583) and China (C-585, C-601, C-622) demonstrate, such agreements imply a substantial payment from the foreign State (2.2 billion in the case of Russia, and a 900 million bonus from China), for which the WPT exemption constituted a counterpart. The Claimants do not present more than a mere hypothesis of their involvement in such an international agreement, without considering the additional investment that would have been required to obtain the further advantage of being taken out from the scope of WPT. In a but-for scenario, there is no incentive that would have made such an exception agreement attractive for Venezuela, with the effect of rendering the financial equation fixed through the Association Agreements more favorable to the foreign investors.

760. The Claimants' submission that they would have obtained exclusions from the WPT Law on the basis of EOR technology they thought to implement is based on very weak grounds in light of the uncertain future of such technology within the framework of the Association Agreements. More information and evidence would be needed to demonstrate that the supplemental investment required for such technology would off-set the tax payments required under the WPT. In any event, the main part of the production under the Projects would not have been conducted through such modern technology that is the only one that would benefit from an exemption. It must be recalled, indeed, that the exemption did apply to specific projects only, covering in one of the examples referred to by the Claimants steam injection supplied to a set of 5 wells in 2012 and 104 in 2013 (C-615/618), whereas in another, concerning PetroPiar, an exemption was granted in 2013 for a period between April and December 2011 in the amount of about US$ 24 million, leaving a remaining tax amount of US$ 320 million for the same period (R-519, C-606). No exemption could be expected for cold production and for maintenance, which were the Projects' major activities[555].

761. There may have been an opportunity to reduce the exposure to the WPT by selling more oil on the domestic market. However, the Projects were manifestly oriented to sales of oil abroad,

[554] Cf. Interim Decision, paras. 94-131.

[555] PDVSA received exemptions in the amount of US$ million 1,583 (2013), 3,712 (2012) and 1,585 (2011); PDVSA, Consolidated Financial Statements, 2013, 2012, 2011 (C-616, p. 38/pdf). In the years 2012 and 2013 it received a Government grant for US$ 5,241, respectively 6,683 million, which appears in the accounts as a reimbursement through FONDEN (*ibidem*).

oversea. The Claimants refrain from any attempt to quantify the volumes that they would have sold locally with the benefit of being exempted from the WPT[556]. Equally unsupported is the argument that royalty-in-kind payments could have been made. In such a case, the State would have to be interested; no such evidence has been provided for such a perspective[557]. The example of PetroPiar that is supposed to be an "apparent" benefit of this kind is unsupported by the evidence submitted[558].

762. The Claimants complain that Venezuela refused in the disclosure phase to produce all responsive documents relating to the WPT exemptions and how they have been applied. The Tribunal accepts that PDVSA and *empresas mixtas* have been able to be exempted in significant part from the application of the WPT Laws. The Tribunal observes, however, when screening the Financial Statements of the *empresas mixtas* that have taken over Petrozuata and Hamaca, that these Projects have paid substantial amounts to the FONDEN, the entity collecting the special contribution. The Tribunal also finds that the examination of the main options for exemption has shown that the Projects, in a but-for scenario, had little or no chance to benefit in any significant part from being exempted from the payment of the special contribution. And even if there would have been an opening for exemption, the Claimants provide no estimate, nor any evidence, of the amounts of WPT they would have been able to save had they remained in the Projects. Moreover, even if it is true that the Respondent did not disclose all documents it was requested to submit[559], the Claimants did not show whether and to what extent such additional documentation would have demonstrated that it had any more opportunity to obtain exemptions from the WPT Law in the future[560] or the amounts that it would have allegedly saved. For instance, the presentation of all relevant cooperation agreements with foreign countries does not assist in proving that the Claimants would have had the benefit of such an agreement under the prevailing conditions based on the Association Agreements.

763. Given the above conclusion, the Claimants' argument that when complying with the requirements, they would have been entitled to an exemption from the WPT by operation of law,

[556] The Claimants' experts apply the export tax on the basis of the total revenue from the sales, making no discount for sales on the domestic market; cf. CLEX-086, Revenues. The Respondent's experts adopt the same position; cf. BF-406, Contractual FCF.

[557] The Claimants do not observe that such a change in production would imply a decrease in upgrading and costs for the installation of the facilities to deal with Mesa and Merey and to deliver crude oil as royalty payment. The matter had been examined at the Hamaca Board of Directors Meeting of 23 February 2006, upon a proposal made by PDVSA, when ConocoPhillips expressed concerns about the possibility of causing longer term reservoir problems and costs, and further noted that it would be necessary to assure that long term benefits would not be sacrificed for short term benefits (C-342, p. 3/4). Reluctance was equally voiced at the Hamaca Operations Committee Meeting of 8 February 2006 (Figuera Appendix 50, p. 4/5).

[558] Financial Statements, CLEX-094, p. 143, 186, 232/pdf.

[559] For a list of the documents disclosed, cf. Respondent's Post-Hearing Brief, 19 May 2017, para. 203.

[560] Cf. Claimants' Post-Hearing Brief, 19 May 2017, para. 199.

cannot succeed. In addition, Article 12.1 of the WPT on exemption for revenues resulting from new projects states expressly that the applicable parameters will be established by the Ministry, and that the decision will result from a declaration of the Ministry, which means that this Governmental authority enjoys some discretion to accept or deny an exemption in a particular case. Similarly, exports in the framework of political economy and international cooperation are subject to partial or total exoneration on the part of the National Executive (Art. 13), which means that the Government acts in its own discretion. The only more affirmative provision is Article 12.2, providing for an exemption in case of exportation implemented in International Agreements of cooperation or financing; this must be so for the simple reason that the exemption is part of such agreement. When considering this legal framework, applicants for WPT exemptions must expect to be treated differently, depending on whether or not they comply with the legal and administrative requirements. Contrary to the Claimants' position, there is no case for being placed from the outset in "like circumstances", as opposed to "discriminatory treatment".

764. It may happen therefore that the WPT would put the Claimants in a less favorable position than the terms of the Association Agreements, or vice-versa. Contrary to the Claimants' view, the statute may make a difference depending on the contractual arrangements of a concerned entity, for instance in relation to its ability to introduce steam-injection technology. The very terms of the statutory exemptions demonstrate that the statute can be applied differently to different investors, depending upon whether or not they comply with the full set of requirements.

765. The Tribunal notes that while the Claimants insist on having been treated less favorably than other investors who had taken advantage of the available exemptions, they nonetheless do not rely on the very specific provisions on discriminatory action contained in the Association Agreements of Petrozuata and Hamaca. In fact, these provisions may, if the applicable requirements are fulfilled, provide for a legal treatment different from the Claimants' understanding of the WPT and applicable under a but-for scenario[561].

766. In conclusion, the Tribunal finds that the Windfall Profit Tax would have been applicable to the Projects. No case for an exemption has been demonstrated or supported by evidence. The potential relevance of the compensation provisions of the Association Agreements of Petrozuata and Hamaca remains to be examined at a later stage. At this juncture, the accounting impact of the WPT Law has to be determined. It results from the legal structure explained above. The Law and its subsequent amendments operate by layers setting thresholds and margins determining the applicable percentage of the tax. The Law operates a distinction between extraordinary prices and

[561] Cf. Respondent's Post-Hearing Brief, 19 May 2017, paras. 198-201, 210, 216, noting that the compensation provisions would be relevant if the Windfall Profit Tax would be considered as a Discriminatory Action. This has been denied because increases in royalties are allegedly not discriminatory; TR-E, 2017 March Hearing, Day 15, p. 4493:12-4495:2 (Kahale). However, the opposite solution was also accepted as possible; TR-E, *ibidem*, p. 4533:4-4534:5 (Kahale).

exorbitant prices. The first type of price is determined by reference to the difference between the Venezuelan Budget Price and the Venezuelan liquid hydrocarbons basket. The second type of price is defined as a percentage between two prices serving as borderline for each of several categories going up from the Budget Price to different levels of prices as stated in the Law.

767. The Tribunal notes that the Claimants' experts were instructed not to examine the Windfall Profit Tax. They must have done so nevertheless because they reported to the Tribunal that whether or not the WPT is applied, the difference in taxation is 21%, which would be in the Claimants' case a reduction compared to the Respondent's position[562]. They also included in their 2016 December Full Valuation a section on the windfall tax, which follows in large part the presentation prepared by the Respondent's experts[563]. The Tribunal notes that while the Claimants object to the application of the WPT in the present case, they did not raise objections to the application as it has been submitted by the Respondent's experts in their reports and in their calculations as per December 2016[564]. This is mainly of concern for the fixing of the Venezuelan Budget Price and the Venezuelan liquid hydrocarbons basket[565]. The Tribunal further observes that the figures mentioned below reflect the production and the sales as presented above, including the prices stated which are all different from those on which the Parties rely. In particular, the Tribunal will not retain a flat rate for prices relevant in later years of the Projects.

768. Nonetheless, the fixing of the Budget Price requires special attention. This price represents the minimum threshold that triggers the tax rate as soon as and to the extent that the Venezuelan Basket price reaches a higher amount. The Venezuelan Basket represents an average price assessed on the basis of actual oil prices. In the present case, this Basket is in most years very close to the actual prices at which oil was sold in the three Projects[566]. The Budget Price has another function because it determines the minimum level at which the WPT can operate. It contains an important political component of the structure of the windfall profit tax.

769. For instance, when the WPT Law became operational in 2008, the Budget Price was set at US$ 70 whereas the average Venezuelan Basket was US$ 89.55. Article 1 of the Law fixed a tax

---

[562] Abdala/Spiller, Rebuttal Report, 21 April 2016, para. 55; Consolidated Update Report, 17 November 2016, footnote 12; TR-E, 2017 February Hearing, Day 6, p. 1714:4-1716:4 (Spiller); Claimants' 2017 Post-Hearing Brief, para. 189.

[563] CLEX-086, Windfall, referring to BF-333/335; Abdala/Spiller, Damage Assessment, Presentation, 27 March 2017, slide 27.

[564] BF-406, Special Contribution.

[565] In respect of this basket price also see the Respondent's experts' *Ex Post* Analyses and Projections Calculations as of 31 December 2016, BF-Appendix 408.

[566] For this reason and for the purpose of remaining consistent with the Tribunal's assessment of the future oil prices, the Tribunal proceeds with an adjustment of the Venezuelan Basket price on the same lines. In particular, the Tribunal does not accept the Respondent's experts' method based on flat rates in respect of this Basket as from year 2021; cf. BF-408.

rate of 50% that was to be applied to the difference between this Budget Price and this Basket, *i.e.* US$ 9.77. In other years, the Budget Law set the Budget Price at a lower level, *e.g.* 40, 50, or 60 US$, with the effect that the basis for taxation of extraordinary prices was extended, when considering a hypothesis where the Venezuelan Basket remains constant. The determination of the Budget Price is thus a key element for the assessment of the WPT applicable to extraordinary prices (the latter being set at US$ 70 and later US$ 80).

770. The information available on the Tribunal's record as to the method of setting the Budget Price for each year is poor. The Tribunal can accept the Budget Prices provided by the Respondent's experts for the historical period until the end of 2016 as realistic; the Claimants' experts did not raise objections in this respect although they must have had access to the relevant information that is in the public domain. For the years 2017 to 2020, the Respondent's experts retain a Budget Price of US$ 40[567]. For the years following 2020, they preserve the same rate as a flat rate, staying with the method they have adopted with other oil prices. In respect of the Budget Price, such option is particularly inappropriate. When a flat rate is applied to market rates in the future, it may be argued that the evolution of the market prices is so uncertain that the median rate may most appropriately be set at a flat level. With regard to the Budget Price, the situation is different. This price certainly has a relation to market prices, but it is above all a political reference, because it fixes the minimum threshold from which the WPT on extraordinary prices intervenes. Whether the Budget Price is set, for instance, at US$ 40 or 60 has the impact that the layer for the WPT of 20% for extraordinary prices applies to the price segment between US$ 40 to 70, or 60 to 70, which makes a difference of US$ 4 for each dollar income.

771. A cursory look at the rare budget explanations found on the Tribunal's record demonstrates the political and economic component of the Budget Price. When this price was set at US$ 60 in the years 2014 and 2015, it was said that with such price, the expectations and the uncertainties of the international oil market were valued, also taking into account the vulnerability of oil prices[568]. For these two years, the Venezuelan Basket Price was US$ 88.54 in 2014 and US$ 44.69 in 2015. Noting the decrease of prices in 2015, the Government must have been sensitive to the potential over pricing of the Budget Price in 2015. This had a strong consequence in year 2016, when the Basket Price went down to US$ 32.02: The Government took the Budget Price down to US$ 40, explaining this was a consequence of the decrease of crude oil prices on international markets[569]. This experience demonstrates that a Budget Price of US$ 40 is manifestly linked to a period of low market prices, when the Government must be careful not to raise taxes above reasonable

[567] Cf. BF-406, Special Contribution, filed together with Consolidated Expert Report on Valuation, 17 November 2016; BF-333, Table 5, filed together with Valuation Update, 18 March 2016.

[568] Cf. Explanations provided with the draft law for the fiscal year 2014 (BF-049, page 23) and 2015 (BF-384, page 21).

[569] Cf. the television report dated 1 December 2015, page 2 (BF-385).

proportions. The stability of the fiscal regime confronted with highly volatile pricing was also a consideration. Thus, when the Budget Price was set at US$ 40 in 2011, it was with the intention of taking maximum profit from increasing prices[570], but this approach was then corrected in 2012 when it was noted that a more prudent approach was to be preferred, resulting in a price level of US$ 50[571] that was further raised to US$ 55 in year 2013[572], before it went up again in 2014 to US$ 60. Therefore, when in years after 2016, prices went up or can be expected to go up again it is unconvincing to retain a low Budget Price of US$ 40 for all future years as a flat rate. The Respondent's experts have no explanation for their assumption that such a flat price would apply until the end of the life of the Projects. Their position is untenable when contrasted to the Budget Price the same experts had adopted two years earlier: Indeed, in their calculations annexed to their Second Report of 7 January 2015[573] and to their Expert Report of 18 August 2014[574], the Budget Price was set at a flat level of US$ 60 as from 2014 and until the end of the Projects. Therefore, these experts' own assumptions support a view that the Budget Price of US$ 40 was exceptional for the low-price year of 2016, while prices as experienced in 2014 and 2015 (between US$ 45 and 90) can have the effect of raising the Budget Price to the level of about US$ 60, in order not to overcharge the financial benefit of oil production in Venezuela. The Tribunal concludes that the most reasonable assumption of the Budget Prices retained as from year 2017 is US$ 60, which corresponds to the actual price in the years 2014 and 2015 and to the amount the Respondent's experts have envisaged before oil prices crashed in 2016. The Tribunal further notes that all the pertinent knowledge and experience related to the assessment of the Budget Price in years later than 2016, including its political component, lies in the hands of the Government of Venezuela appearing as the Respondent in the present case. The Respondent is thus fully aware of the relevance of the appropriate determination of the Budget Price and it had the opportunity to provide the Tribunal with evidence beyond its experts' speculations.

772. One other point remains. The Respondent's experts recognized that the WPT substitutes its rates to the rates for royalty and extraction tax above a threshold of US$ 70 and, respectively, US$ 80[575]. They applied these amounts as the maximum limit, in case the actual royalty reference price

[570] Cf. Explanations provided with the draft law for the fiscal year 2011 (BF-045, page 23).

[571] Cf. Explanations provided with the draft law for the fiscal year 2012 (BF-046, page 23).

[572] Cf. Explanations provided with the draft law for the fiscal year 2013 (BF-048, page 23).

[573] Appendix BF-210, Table 5, filed together with Brailovsky/Flores, Second Expert Report on Valuation, 7 January 2015.

[574] Appendix BF-004, Table 5, attached to Expert Report on Valuation, 18 August 2014. This Report mentions in footnote 328 that this choice had been made, without further explanation.

[575] The Respondent's experts' presentation is not without confusion. In their updated compensation calculation filed with their Second Report dated 7 January 2015, the royalty reference price of US$ 70, later US$ 80, is taken into account (BF-210, Table 4; see also BF-005, Table 4). However, the report itself notes that the royalties are not capped at the prices established by the windfall profit legislation (cf. Second Expert Report on Valuation, 7 January 2015, footnote 315). In the calculation appended to the Consolidated Brief of November 2016, the limits of US$ 70 and US$

based on the Ministry's price formula was higher. This occurred in fact in the high price period from 2011 to 2014 only, whereas in the other years, prices stayed below this threshold. Such a calculation avoids double taxation: The royalty rate of 33.33% is applied on the basis of the total EHCO production, whereas the WPT is applied by reference to the total volume of upgraded oil sold. Article 14 WPT Law requires the separation of the two regimes along the line fixed by the above-mentioned threshold. Below prices of US$ 70 (or US$ 80 as from 2013), the royalty and extraction tax of 33.33% applies; above that limit, this rate is ineffective and replaced by the rates determined by the WPT Law. This price represents the lowest threshold of what the WPT Law qualifies as "exorbitant prices". Prices below that level but still above the Budget Law price fixed for each fiscal year are called "extraordinary prices" where a tax rate of 20% applies (Art. 7) together with the royalty and extraction tax. Above that limit, each of the two tax regimes operates separately. The Tribunal will therefore retain the reference price for Royalties at the appropriate stage as it results from Article 14 of the WPT Law.

773. The calculated terms of the application of the WPT on each of the Projects are as follows:

80 are mentioned as "Reference Price Adjustment by B&F (Cap)"; cf. BF-406, Revenues. The calculations in Appendix 408 do not mention the Royalty price resulting from Article 14 WPT. The experts never mention this provision.

	WPT – Petrozuata						
	MMB	Total Income US$	Sales Price US$	Venezuela Basket	Budget Price[576]	Rate[577]	Tax US$
2007 ½	15,568,593	1,091,981,113	70.14				--
2008	35,700,904	3,119,544,992	87.38	89.55	70	6.15[578]	219,560,559
2009	36,200,000	2,008,738,000	55.49	56.48	70	--	0
2010	36,200,000	2,574,756,000	70.38	71.57	70	0.19	68.780
2011	36,200,000	3,635,204,000	100.42	100.66	40	26.68[579]	965,816,000
2012	36,200,000	3,670,318,000	101.39	103.37	50	32.20	1,165,640,000
2013	36,200,000	3,637,738,000	100.49	101.22	55	23.10[580]	836,220,000
2014	36,200,000	3,201,528,000	88.44	88.54	60	10.80	390,960,000
2015	36,200,000	1,565,288,000	43.24	44.69	60	--	0
2016	36,200,000	1,158,762,000	32.01	32.02	40	--	0
2017	36,200,000	1,706,468,000	47.14	48.42	60	--	0
2018	36,200,000	1,921,496,000	53.08	54.51	60	--	0
2019	36,200,000	1,960,230,000	54.15	55.62	60	--	0
2020	36,200,000	2,100,324,000	58.02	59.59	60	--	0
2021	36,200,000	2,143,764,000	59.22	60.79	60	0.15	54,300
2022	36,200,000	2,187,204,000	60.42	61.99	60	0.39	141,180
2023	36,200,000	2,230,644,000	61.62	63.19	60	0.63	228,060
2024	26,600,000	1,671,012,000	62.82	64.39	60	0.87	231,420
2025	22,100,000	1,414,842,000	64.02	65.59	60	1.11	245,310
2026	19,000,000	1,239,180,000	65.22	66.79	60	1.35	256,500
Total		44,212,022,105					3,579,422,109
1	2	3	4	5	6	7	8

[576] According to the first version of the WPT Law, the reference was US$ 70 and not the Budget Price. The comparison had to be made with the Brent crude price and not the Venezuelan Basket. The Tribunal refers to the actual prices of the oil sold.

[577] The applicable rates are those pertinent for each layer determined by the Decree applicable to any period of time as fixed by the legislation. The prices applicable for each layer are not repeated here.

[578] The rate for 2008 has been adjusted from 8.69 to 6.15 because Decree No. 8.807 entered into force by 15 April 2008 only.

[579] In the year 2011, the rate was 15.21 until April when Decree No. 8.163 entered into force, with the effect that the rate went up to 31.40, resulting in a combined rate for the year of 26.68.

[580] In the year 2013 the rate was 29.15 until 20 February 2013 when Decree No. 40.114 entered into force and reduced the overall rate to 22.00, resulting in a combined rate per year of 23.10.

WPT – Hamaca							
	MMB	Total Income US$	Sales Price US$	Venezuelan Basket	Budget Price	Rate [581]	Tax US$
2007 ½	28,939,154	2,208,346,842	76.31				--
2008	52,430,724	4,792,168,174	91.40	89.55	70	7.58	397,424,887
2009	58,400,000	2,930,512,000	50.18	56.48	70	--	0
2010	58,400,000	4,106,688,000	70.32	71.57	70	0.16	93,440
2011	58,400,000	5,464,488,000	93.57	100.66	40	26.68	1,558,112,000
2012	58,400,000	5,804,960,000	99.40	103.37	50	32.20	1,880,480,000
2013	58,400,000	5,873,872,000	100.58	101.22	55	23.10	1,349,040,000
2014	58,400,000	5,051,016,000	86.49	88.54	60	10.80	630,720,000
2015	58,400,000	2,531,640,000	43.35	44.69	60	--	0
2016	58,400,000	1,720,464,000	29.46	32.02	40	--	0
2017	58,400,000	2,705,672,000	46.33	48.42	60	--	0
2018	58,400,000	3,046,144,000	52.16	54.51	60	--	0
2019	58,400,000	3,108,048,000	53.22	55.62	60	--	0
2020	58,400,000	3,329,968,000	57.02	59.59	60	--	0
2021	58,400,000	3,400,048,000	58.22	60.79	60	0.15	87,600
2022	58,400,000	3,470,128,000	59.42	61.99	60	0.39	227,760
2023	58,400,000	3,540,208,000	60.62	63.19	60	0.63	364,920
2024	58,400,000	3,610,288,000	61.82	64.39	60	0.87	508,080
2025	58,400,000	3,680,368,000	63.02	65.59	60	1.11	648,240
2026	58,400,000	3,750,448,000	64.22	66.79	60	1.35	788,400
2027	58,400,000	3,820,528,000	65.42	67.99	60	1.59	928,560
2028	58,400,000	3,890,608,000	66.62	69.19	60	1.83	1,068,720
2029	58,400,000	3,960,688,000	67.82	70.39	60	2.07	1,208,880
2030	58,400,000	4,030,768,000	69.02	71.59	60	2.31	1,349,040
2031	58,400,000	4,100,848,000	70.22	72.79	60	2.55	1,489,200
2032	58,400,000	4,170,928,000	71.42	73.99	60	2.71	1,582,640
2033	58,400,000	4,241,008,000	72.62	75.19	60	3.03	1,769,520
2034	51,000,000	3,764,820,000	73.82	76.39	60	3.27	1,667,700
2035	47,000,000	3,525,940,000	75.02	77.59	60	3.51	1,649,700
2036	43,000,000	3,277,460,000	76.22	78.79	60	3.75	1,612,500
Total		112,909,071,016					5,832,821,787
1	2	3	4	5	6	7	8

[581] For the calculation of the WPT rate, the observations made in relation to Petrozuata equally apply for Hamaca. For the prices substituted to the Budget Price in the years 2008 to 2010 the sales prices of Hamaca apply.

WPT – Corocoro							
	MMB	Total Income US$	Sales Price US$	Venezuelan Basket	Budget Price	Rate[582]	Tax US$
2007 ½	0	0	0				--
2008	7,182,000	618,801,120	86.16	89.55	70	5.72	410,810
2009	11,483,000	647,641,200	56.40	56.48	70	--	0
2010	13,152,000	942,209,280	71.64	71.57	70	0.58	76,281
2011	13,214,000	1,302,900,400	98.60	100.66	40	26.68	352,549,500
2012	13,479,000	1,340,216,970	99.43	103.37	50	32.20	434,023,800
2013	13,336,000	1,315,996,480	98.68	101.22	55	23.10	308,061,600
2014	12,839,000	1,140,488,370	88.83	88.54	60	10.80	138,661,200
2015	12,069,000	504,846,270	41.83	44.69	60	--	0
2016	11,027,000	365,545,050	33.15	32.02	40	--	0
2017	11,204,000	529,837,160	47.29	48.42	60	--	0
2018	9,411,000	501,135,750	53.25	54.51	60	--	0
2019	8,444,000	458,762,520	54.33	55.62	60	--	0
2020	7,747,000	450,952,870	58.21	59.59	60	--	0
2021	7,205,000	428,049,050	59.41	60.79	60	0.15	10,807
2022	6,765,000	410,026,650	60.61	61.99	60	0.39	26,383
2023	6,268,000	387,425,080	61.81	63.19	60	0.63	39,488
2024	5,741,000	361,740,410	63.01	64.39	60	0.87	49,946
2025	5,508,000	353,668,680	64.21	65.59	60	1.11	61,138
2026	5,297,000	346,476,770	65.41	66.79	60	1.35	71,509
Total		12,406,720,080					1,234,042,462
1	2	3	4	5	6	7	8

C. The Net Revenue

774. The Tribunal will now proceed to determine the Net Revenue that results, year by year, from the Gross Revenue (income minus costs), minus Royalties and all other deductions taken from this Revenue, the sum of which will be the basis for the assessment of the payment of the Income Tax.

775. The first step consists in computing royalties and extraction tax, together with associated contributions. As this has been mentioned in the general observations above (part A), the royalty and extraction tax of 33.33% is taken from a basis composed of three components: (a) the production volume, (b) the reference price, and (c) the applicable rate. The reference price is either adopted by the Ministry (MENPET) or it is reflected by the maximum price determined by Article 14 of the WPT Law (US$ 70 between 18 April 2011 and 20 February 2013, US$ 80 as from 21 February 2013). When the reference price is below the WPT threshold and no Ministry pricing or other evidence is available, the Tribunal determines such price in using its discretion when considering

[582] For the calculation of the WPT rate, the observations made in relation to Petrozuata equally apply for Corocoro. For the prices substituted to the Budget Price in the years 2008 to 2010 the sales prices of Corocoro apply.

the Parties' submissions[583]. In particular, it does not follow the Respondent's experts' flat rate after year 2020 and adopts a slight increase per year of US$ 1, lower than for oil market prices. The basis for this calculation are the volumes of EHCO extracted from the field and used for upgrading to heavy syncrude[584]. For Corocoro, the volumes of extracted oil from the fields below the sea apply.

776. The sales income constitutes the basis for the accounting of various contributions: Science and Technology Contribution of 2%, reduced to 1% with effect as from 2012; Anti-drug contribution of 1%; Social Contribution of 1%; and the Sports Tax of 1% accounted as from 2012. The total is thus 4% for each year. The Tribunal adds to these expenses the export tax of 0.1% (except for the years 2011 to 2014 when Article 14 of the WPT Law applied).

777. The second and final step before reaching the net revenue is to deduct the 50% Income Tax.

[583] The experts of the Claimants and the Respondent use the same reference price for Corocoro for the years 2008 to 2010. In respect of Petrozuata and Hamaca, where year 2007 is to be added, the differences are very small. As it has followed the Respondent's information on actual sales for these years, it will also take the royalty reference price noted by this Party's experts. Cf. BF-406, Revenues, BF-408; CLEX-086, Revenues.

[584] For this reason and given the limited information provided by the Claimants, the EHCO by-pass quantities – anyhow small in their volume – are not included in this counting.

Net Revenue – Petrozuata								
	Royalties			Contribu-tions 4.1%	WPT	Subtotal be-fore Income Tax[585]	Income Tax 50%	Net Revenue
	EHCO	Refe-rence Price	33.33%					
2007 ½	19,531,383	59.14	384,990,160	44,771,226	--	472,948,727	236,474,363	236,475,364
2008	41,398,549	72.04	994,017,744	127,895,400	219,560,559	1,339,837,289	669,918,644	669,918,645
2009	41,785,200	52.50	731,167,875	82,358,258	0	755,684,867	377,842,433	377,842,434
2010	41,785,200	66.18	921,689,333	104,457,996	68.780	1,190,337,891	595,168,945	595,168,946
2011	41,785,200	75.89	1,056,920,573	145,408,160	965,816,000	877,146,299	438,573,149	438,573,150
2012	41,785,200	70	974,890,501	146,812,720	1,165,640,000	934,845,779	467,422,889	467,422,890
2013	41,785,200	78.60	1,094,662,762	145,509,440	836,220,000	1,115,988,798	557,994,399	557,994,399
2014	41,785,200	78.40	1,091,877,361	128,061,120	390,960,000	1,007,280,519	503,640,259	503,640,260
2015	41,785,200	39.61	551,648,753	64,176,808	0	- 123,367,561	--	- 61,683,780
2016	41,785,200	33.96	472,961,163	47,509,242	0	357,685,595	178,842,797	178,842,798
2017	41,785,200	42.49	591,758,534	69,965,188	0	549,182,278	274,591,139	274,591,139
2018	41,785,200	48.28	672,395,905	78,781,336	0	704,658,759	352,329,379	352,329,380
2019	41,785,200	49.33	687,019,263	80,369,430	0	744,517,307	372,258,653	372,258,654
2020	41,785,200	53.11	739,663,350	86,113,284	0	827,442,366	413,721,183	413,721,183
2021	41,785,200	54.11	753,590,357	87,894,324	54,300	828,906,019	414,453,009	414,453,010
2022	41,785,200	55.11	767,517,364	89,675,364	141,180	908,206,092	454,103,046	454,103,046
2023	41,785,200	56.11	781,444,371	91,456,404	228,060	1,034,766,165	517,383,082	517,383,083
2024	30,850,000	57.11	587,222,438	68,511,492	231,420	724,046,650	372,523,325	372,523,325
2025	25,650,000	58.11	496,790,815	58,008,522	245,310	619,797,353	309,898,676	309,898,677
2026	22,000,000	59.11	433,429,986	50,806,380	256,500	534,687,134	267,343,567	267,343,567
Total								7,712,800,170
1	2	3	4	5	6	7	8	9

[585] Determined on the basis of the Gross Revenue (cf. Section VIII/3a), less the taxes noted in this table.

Net Revenue – Hamaca								
	Royalties			Contributions 4.1%	WPT	Subtotal before Income Tax	Income Tax 50%	Net Revenue
	EHCO	Refe-rence Price	33.33%					
2007 ½	31,570,422	58.38	614,298,976	90,544,400	--	1,177,904,466	588,952,233	588,952,233
2008	58,112,475	71.14	1,377,902,686	196,480,200	397,424,887	1,777,164,401	888,582,200	888,582,201
2009	61,374,750	52.16	1,066,995,609	120,150,992	0	694,921,399	347,460,699	347,460,700
2010	61,374,750	65.70	1,343,972,614	168,374,208	93,440	1,968,847,738	984,423,869	984,423,869
2011	61,374,750	75.89	1,552,421,334	218,579,520	1,558,112,000	1,421,764,146	710,882,073	710,882,073
2012	61,374,750	70	1,431,934,292	232,198,400	1,880,480,000	1,166,185,308	583,092,654	583,092,654
2013	61,374,750	78.60	1,607,857,648	234,954,880	1,349,040,000	1,839,695,472	919,847,736	919,847,736
2014	61,374,750	77.82	1,591,901,808	202,040,640	630,720,000	1,476,313,552	738,156,776	738,156,776
2015	61,374,750	39.27	803,315,137	103,797,240	0	- 513,042,377	--	- 256,521,188
2016	61,374,750	33.81	691,624,263	70,539,024	0	412,128,713	206,064,356	206,064,357
2017	61,374,750	42.18	862,847,692	110,932,552	0	700,796,756	350,398,378	350,398,378
2018	61,374,750	47.94	980,670,428	124,891,904	0	1,062,940,668	531,470,334	531,470,334
2019	61,374,750	48,98	1,001,944,880	127,429,968	0	1,150,109,152	575,054,576	575,054,576
2020	61,374,750	52.74	1,078,860,208	136,528,688	0	1,243,615,104	621,807,552	621,807,552
2021	61,374,750	53.74	1,099,316,412	139,401,968	87,600	1,343,860,020	671,930,010	671,930,010
2022	61,374,750	54.74	1,119,772,616	142,275,248	227,760	1,310,797,736	655,398,688	655,398,688
2023	61,374,750	55.74	1,140,228,820	145,148,528	364,920	1,314,572,732	657,286,366	657,286,366
2024	61,374,750	56.74	1,160,685,024	148,021,808	508,080	1,466,348,088	733,174,044	733,174,044
2025	61,374,750	57.74	1,181,141,229	150,895,088	648,240	1,412,927,443	706,463,721	706,463,722
2026	61,374,750	58.74	1,201,597,433	153,768,368	788,400	1,429,855,799	714,927,899	714,927,900
2027	61,374,750	59.74	1,222,053,637	156,641,648	928,560	1,315,471,155	657,735,577	657,735,578
2028	61,374,750	60.74	1,242,509,841	159,514,928	1,068,720	1,389,378,511	694,689,255	694,689,256
2029	61,374,750	61.74	1,262,966,045	162,388,208	1,208,880	1,499,928,867	749,964,433	749,964,434
2030	61,374,750	62.74	1,283,422,249	165,261,488	1,349,040	1,648,634,223	824,317,111	824,317,112
2031	61,374,750	63.74	1,303,878,454	168,134,768	1,489,200	1,699,037,578	849,518,789	849,518,789
2032	61,374,750	64.74	1,324,334,658	171,008,048	1,582,640	1,698,145,654	849,072,827	849,072,827
2033	61,374,750	65.74	1,344,790,862	173,881,328	1,769,520	1,818,071,290	909,035,645	909,035,645
2034	48,300,000	66.74	1,074,406,548	154,357,620	1,667,700	1,804,388,132	902,194,066	902,194,066
2035	44,500,000	67.74	1,004,709,519	144,563,540	1,649,700	1,750,017,241	875,008,620	875,008,621
2036	40,700,000	68.74	932,479,409	134,375,860	1,612,500	1,688,992,231	844,496,115	844,496,116
Total								20,084,885,425
1	2	3	4	5	6	7	8	9

Net Revenue – Corocoro								
	Royalties			Contributions 4.1%	WPT	Subtotal before Income Tax	Income Tax 50%	Net Revenue
	Production	Reference Price	33.33%					
2008	7,182,000	86.79	207,754,482	25,370,845	410,810	112,976,983	56,488,491	56,488,492
2009	11,483,000	56.72	217,083,542	26,553,289	0	198,427,369	99,213,684	99,213,685
2010	13,152,000	71.73	314,432,873	38,630,580	76,281	279,512,546	139,756,273	139,756,273
2011	13,214,000	78.38	345,203,249	52,116,016	352,549,500	371,608,635	185,804,317	185,804,318
2012	13,479,000	70	314,478,549	53,608,678	434,023,800	345,143,943	172,571,971	172,571,972
2013	13,336,000	78.60	349,368,259	52,639,859	308,061,600	435,348,762	217,674,381	217,674,381
2014	12,839,000	80	342,339,096	45,619,534	138,661,200	379,569,540	189,784,770	189,784,770
2015	12,069,000	45.89	184,597,008	20,698,697	0	- 54,169,435	--	- 27,084,718
2016	11,027,000	39	143,336,666	14,987,347	0	131,613,037	65,806,518	65,806,519
2017	11,204,000	48.60	181,486,649	21,723,323	0	173,351,188	86,675,594	86,675,594
2018	9,411,000	54.57	171,168,971	20,546,565	0	194,627,214	97,313,607	97,313,607
2019	8,444,000	55.65	156,620,536	18,809,263	0	172,728,721	86,364,360	86,364,361
2020	7,747,000	59.54	153,736,751	18,489,067	0	170,709,052	85,354,526	85,354,526
2021	7,205,000	60.54	145,382,360	17,550,011	10,807	158,158,872	79,079,436	79,079,436
2022	6,765,000	61.54	138,758,822	16,811,092	26,383	145,386,353	72,693,176	72,693,177
2023	6,268,000	62.54	130,653,839	15,884,428	39,488	131,037,325	65,518,662	65,518,663
2024	5,741,000	63.54	121,582,220	14,831,356	49,946	113,864,888	56,932,444	56,932,444
2025	5,508,000	64.55	118,501,948	14,500,415	61,138	107,117,179	53,558.589	53,558,590
2026	5,297,000	65.55	115,727,876	14,205,547	71,509	100,907,838	50,453,919	50,453,919
Total	181,371,000							1,833,960,009
1	2	3	4	5	6	7	8	9

X. Dividends and Compensation

A. Lost Dividends

778. It was provided for each Project that net profits were distributed to the participants of the Association Agreements through the dividends in proportion to their participation as affiliates, respectively shareholders, in the Project. The payment of dividends was based on the respective By-Laws ("Documento Constitutivo - Estatutos") of the Projects' joint venture companies contained as Annex C to each of the Association Agreements. On this basis, the Claimants submit that they would have received, from June 2007 onwards dividends representing their share of the profits in accordance with their ownership interest. The Parties' valuation experts direct their calculation of the final net amount (without interest and discount) to the respective ConocoPhillips' company's share in each of the Projects[586]. It may be noted that the dividends were not paid out from the joint

[586] Abdala/Spiller, Exhibit CLEX-086 (FCF: "Foregone Dividends"); Brailovsky/Flores, Exhibit 406 (Contractual FCF: "Dividends Foregone").

company to the participants of the Projects. In fact, the money received from the sales was kept overseas and part of it sent to the Projects in Venezuela to contribute to the costs[587].

779. On the basis of the Tribunal's analysis, the corresponding dividends are the following:

ConocoPhillips' Dividends						
	Petrozuata		Hamaca		Corocoro	
	Net Revenue	CPZ - 50.1%	Net Revenue	CPH - 40%	Net Revenue	CPG - 32.2075%
2007 ½	236,475,364	118,474,157	588,952,233	235,580,893	--	--
2008	669,918,645	335,629,241	888,582,201	355,432,880	56,488,492	18,193,531
2009	377,842,434	189,299,059	347,460,700	138,984,280	99,213,685	31,954,307
2010	595,168,946	298,179,642	984,423,869	393,769,548	139,756,273	45,012,002
2011	438,573.150	219,725,148	710,882,073	284,352,829	185,804,318	59,842,926
2012	467,422,890	234,178,868	583,092,654	233,237,062	172,571,972	55,581,118
2013	557,994,399	279,555,194	919,847,736	367,939,094	217,674,381	70,107,476
2014	503,640,260	252,323,770	738,156,776	295,262,710	189,784,770	61,124,930
2015	- 61,683,780	- 30,903,574	- 256,521,188	- 102,608,475	- 27,084,718	- 8,723,311
2016	178,842,798	89,600,242	206,064,357	82,425,743	65,806,519	21,194,635
2017	274,591,139	137,570,161	350,398,378	140,159,351	86,675,594	27,916,042
2018	352,329,380	176,517,019	531,470,334	212,588,134	97,313,607	31,342,280
2019	352,258,654	176,481,586	575,054,576	230,021,830	86,364,361	27,815,802
2020	413,721,183	207,274,313	621,807,552	248,723,021	85,354,526	27,490,559
2021	414,453,010	207,640,958	671,930,010	268,772,004	79,079,436	25,469,509
2022	454,103,046	227,505,626	655,398,688	262,159,475	72,693,117	23,412,655
2023	517,383,083	259,208,925	657,286,366	262,914,546	65,518,663	21,101,923
2024	372,523,325	186,634,186	733,174,044	293,269,618	56,932,444	18,336,517
2025	309,898,677	155,259,237	706,463,722	282,585,489	53,558,590	17,249,883
2026	267,343,567	133,939,127	714,927,900	285,971,160	50,453,919	16,249,946
2027			657,735,578	263,094,231		
2028			694,689,256	277,875,702		
2029			749,964,434	299,985,774		
2030			824,317,112	329,726,845		
2031			849,518,789	339,807,516		
2032			849,072,827	339,629,131		
2033			909,035,645	363,614,258		
2034			902,194,066	360,877,626		
2035			875,008,621	350,003,448		
2036			844,496,116	337,798,446		
Total	7,712,800,170	3,854,092,885	20,084,885,425	8,033,954,168	1,833,960,009	590,672,730
1	2	3	4	5	6	7

[587] TR-E, 2017 March Hearing, Day 13, p. 4005:12-4006:16 (Spiller).

B. The Impact of the Compensation Provisions

780. The payment of compensation in case of Discriminatory Actions based on the Petrozuata and Hamaca Association Agreements is related to the payment of dividends. It is therefore appropriate to deal with this matter following the assessment of the dividends the Claimants would have received if the expropriation had not taken place.

781. Relying on the explanations provided above in Section V/B, the Tribunal, referring firstly to the compensation provision contained in the Petrozuata Association Agreement (Section 9.07), recalls that the operation of the mechanism contained therein requires a Discriminatory Action as defined in Section 1.01 of the Agreement. Such action must be consecutive to a "Development Decision" that results in "unjust discriminatory treatment to the Company or any of its shareholders". Further, such action has as its characteristic element of discrimination the fact that it is "not applicable to all enterprises in Venezuela". For the purpose of triggering the mechanism of the compensation provision, the discriminatory action must produce a "significant economic damage" to the shareholders other than the Class A Privileged Shareholders which are those affiliate to or part of PDVSA; a minimum loss of US$ 6.5 million is required.

782. This definition has an addition that is here important. Indeed, the treatment as defined above shall not be discriminatory if it "equally applies to the enterprises (*empresas*) within the oil industry in Venezuela". This applies, *prima facie,* to the Windfall Profit Legislation that applies to all enterprises in the oil business in Venezuela. The provision has an exception that relates exclusively to income tax; in such a matter, even if generally applicable within the oil industry, the treatment is discriminatory if it is not also generally applicable to most enterprises in Venezuela. This exception does not apply to the WPT that is not designed as an income tax and operates like a royalty.

783. The issue to be decided is therefore whether the WPT applies "equally", or not, to the enterprises within the oil industry in Venezuela[588]. The provision using this term does not define it. Such definition cannot be derived from another law, like the WPT Law, which is a legal instrument separate from the Association Agreement. The fact that the WPT Law contains exceptions to its taxing provisions that all obey to the same legal requirements means that equal treatment is provided to those collecting extraordinary profits and potentially applying for an exemption. Nonetheless, the WPT Law provides for unequal treatment between the operators in the oil industry, because for some companies, exemptions are available, whereas for others, they are not. This also means that for the beneficiaries, an exemption implies a tax release, whereas for the others, the tax

[588] The Tribunal notes that there is a further exception in case an equally applicable treatment within the oil industry has the effect of causing economic damage to the shareholders of the Company that was not actually suffered by government owned companies within the oil industry (Sec. 1.01/a/3). In the present case, such a situation is not demonstrated, although the Claimants point to a great number of exceptions obtained by PDVSA or affiliate companies. The considerable amount of special contribution payments recorded in the Financial Statements of the Projects does not support such an allegation.

applies with its full strength. From the point of view of the rules of the Association Agreement, the WPT Law provides for unequal treatment among participants in the oil industry and potential tax payers targeted by the WPT Law. The Association Agreement, when using the expression "equally applies" does not distinguish depending whether such circumstance is legal or illegal. The simple fact of unequal treatment, including unequal treatment based on the law, is sufficient to cause the situation to become a discriminatory action under the Agreement. In the present case, there is ample evidence that the Claimants and the ConocoPhillips Company participating in Petrozuata in particular did not obtain any of the various exemptions provided by the WPT Law. Compared to all those who enjoyed one or more of those exemptions, the unequal treatment is established.

784. Significant Economic Damage is established on a (fiscal) yearly basis. As was explained in Section V/B above, compensation is determined by reference to the price of Brent Crude Oil deflated or inflated annually to the year 1994 by the US inflation index. In the present case, one hypothesis only is to be retained, *i.e.* the case where the Brent price reached levels above 25 US$ (inflated from 1994). Based on these requirements, the Brent price to be retained year by year was in a range of about US$ 25 and 50[589]. In such situations, compensation is awarded if the economic damage suffered is greater than US$ 75 million (in 1994 $ inflated by the US inflation index). The amount to be compensated is then the greater of 25% of the actual economic damage or the amount resulting from a "sliding scale" set at 100% for a damage of US$ 18 and then decreasing by 14.29% per one dollar (Sec. 9.07/c). In fact, in light of the actual oil prices experienced since 2007, the compensation to be retained corresponds to 25% of the actual damage resulting from the WPT's application in the years where the tax went above the amount of US$ 75 million (inflated as from 1994 by the US inflation index[590]). Further, the reduction of the maximum level for the royalties and extraction tax based on Article 14 of the WPT Law has to be taken into account. The impact of the WPT was less significant when the tax applied to exorbitant prices (above US$ 70, later US$ 80) and the upper royalty level was fixed at these amounts. This relates to years 2011 to 2013 when the official royalty reference price was US$ 89,91 (2011), 92.98 (2012) and 87.85 (2013), whereas the actual price based on Article 14 of the WPT Law was US$ 75.89 (2011), 70 (2012) and 78.60 (2013)[591].

785. The Petrozuata compensation provision contained a number of procedural requirements that can be considered as settled in a but-for scenario, such as the absence of any other legal or administrative action providing a remedy from the application of a discriminatory action (Sec. 9.07/d). In particular, the compensation provision does not address any potential legal action directed against state authorities for the purpose of denying any legal obligation allegedly based on

[589] Leitzinger/Finizza, Expert Report dated 24 July 2009, Appendix 6.

[590] Based on the information provided by the Respondent's experts Leitzinger and Finizza, the respective amounts moved upwards from US$ 75 million to US$ 135 million in 2023 (Expert Report dated 24 July 2009, Appendix 6). Accordingly, the threshold was reached in the years 2008 and 2010 to 2014, but no longer as from year 2015.

[591] Cf. B/F Appendix 408. In 2014, both prices were at the same level of US$ 78.40.

the WPT Law. The right to compensation relates to damages suffered during the fiscal year previous to the year in which the written notice relating to such damage has been sent to the Class A Privileged Shareholder (Sec. 9.07/e). This means that the compensation is paid the year after following the discriminatory action has been implemented. It may be assumed that sufficient cash was available and that therefore the hypothesis of deferred payments has not to be taken into account (Sec. 9.07/a). The figures of the resulting compensation are as follows:

ConocoPhillips' Compensation (Petrozuata)			
	WPT US$	Reduction to Royalty reference price (Art. 14 WPT)	Brent Price higher than $25.00, damage higher than $75MM (both inflated): compensation in US$ the following year
2007 ½	--		--
2008	219,560,559		0
2009			48,038,760
2010	68.780		0
2011	965,816,000	- 195,256,640	0
2012	1,165,640,000	- 320,042,624	45,014,391
2013	836,220,000	- 128,824,817	0
2014	390,960,000		74,484,514
2015	0		101,203,324
2016	0		0
2017	0		0
2018	0		0
2019	0		0
2020	0		0
2021	54,300		0
2022	141,180		0
2023	228,060		0
2024	231,420		0
2025	245,310		0
2026	256,500		0
Total	3,579,422,109	- 644,124,081	286,740,989
1	2	3	4

786. The Hamaca compensation system was both more complicated and less protective in respect of the actual WPT Law. The key point here is that the obligation of Corpoven Sub to compensate the affected party for any material adverse effect (corresponding to a reduction of more than 5% of its cash flow) of a Discriminatory Action suffered in a fiscal year is no longer effective when the price of Brent Crude Oil is equal or greater than US$ 27.00 (not inflated) as from the end of the initial period in December 2007 (Sec. 14.2/b, d and g). In the relevant period as from 2008 when the WPT Law entered into force, the Brent Crude price was always above this threshold.

Therefore, there is no dispute that no compensation results from the Hamaca Association Agreement in respect of the windfall tax[592].

XI. Interest

787. Interest is a component of reparation based on amounts of money. It serves to establish the value of reparation determined at a particular date as it moves forward into the future as from that date. In respect of the historical period from the date of the expropriation in June 2007 up to the end of year 2018, interest can be determined based on real terms, as the Tribunal has already established the net revenue that the Claimants have lost. As from the date of this Award, interest is based on an estimation of the future progress in value of the amounts awarded until effective payment.

1. The Claimants' Position

788. The Claimants submit that compensation for delayed payment is an essential part of full reparation under international law. To the extent that payment is delayed, the claimant loses the opportunity to use the funds for productive ends. The Claimants are entitled to two categories of reparation for delayed payment in this case: (a) compensation for the loss of use of the historical cash flows that they would have received from the date of expropriation up to the date of the Tribunal's final Award; and (b) post-award interest on the total amount of damages awarded, running until the date of full and final payment. The proper measure of compensation in both instances is the same: the Claimants' opportunity cost, as reflected in the cost of equity of the expropriated Projects.

789. Relying on the *Chorzów Factory* case[593], the Claimants contend that the rate at which lost cash flows should be updated to present value or increased by interest must ensure that they are restored to the same position it would have enjoyed had the expropriation not occurred. In both scenarios, the loss to the claimant is the opportunity cost of having been deprived of the funds in question. The Claimants were deprived of the periodic dividends generated by the Projects, and were instead, de facto, forced to reinvest those funds into the Projects. The minimum rate is therefore the Projects' cost of equity. A claimant may rightly select interest at its opportunity cost of

[592] Cf. TR-E, 2017 February Hearing, Day 6, p. 1555:3-8, 16-18 (King), p. 1714:12-14 (Friedman), p. 1649:16-1650:7, 1730:22-1731:4 (Abdala); 2017 March Hearing, Day 11, p. 3327:18-3328:2 (Spiller); Claimants' 2017 Post-Hearing Brief, footnote 342. Venezuela's Counter-Memorial, paras. 69-74; Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, footnote 725; TR-E, 2017 February Hearing, Day 6, p. 1809:19-1811:4 (Brailovsky); Leitzinger/Finizza, Expert Report dated 24 July 2009, paras. 59-62.

[593] Permanent Court of International Justice, *The Factory At Chorzów (Claim for Indemnity) (The Merits), Germany v. Poland*, Judgment No. 13, 13 September 1928, 1928 P.C.I.J. (ser. A) No. 17 (CL-84).

capital. This is particularly true for a business operating under an on-going concern. The expropriation meant that the periodic dividends that would have been generated by the Projects and distributed to the Claimants from the date of expropriation onwards were not in fact distributed. Instead, these dividends were effectively retained – forcibly reinvested – in the Projects. The Claimants should therefore be compensated for the risks of the compelled investment.

790. The Claimants explain that this approach has been endorsed by the tribunal in *Vivendi v. Argentina*[594]. The tribunal ultimately ordered pre-award interest based primarily on the claimant's cost of capital, noting that the proper rate should be a reasonable proxy for the return claimants could otherwise have earned. Similarly, the tribunal in *France Telecom v. Lebanon* awarded pre-judgment interest at 10%, noting that this rate reflected the reasonable profitability of the capital of which the claimant was deprived[595].

791. In *Alpha Projektholding v. Ukraine*, the tribunal updated past-due sums based on the "risk-free rate plus the market risk premium", for a total interest rate of 9.11%, reasoning that "this rate better reflects the opportunity cost associated with Claimant's losses, adjusted for the risks of investing in Ukraine"[596]. Thus, the tribunal recognized that a risk-free rate, alone, would under compensate the claimant. The tribunal in *ConocoPhillips v. PDVSA* awarded compound pre- and post-award interest at a rate corresponding to the Projects' then existing cost of equity, determined using the ICAPM method (10.55%)[597].

792. The principle of opportunity cost was also recently applied in determining the applicable interest rate in *SAUR v. Argentina*[598]. Rejecting a simple risk-free interest rate as unreasonably low, the tribunal instead adopted the agreed rate of return of the project at issue. It identified this rate as the Weighted Average of Capital (WACC), which the tribunal also applied to the discount rate – describing this as the rate at which the claimant investor was prepared to continue its long-term investment.

793. For all these reasons, the Claimants' historical lost cash flows should be brought to present value by applying the Projects' cost of equity as the update factor. The Claimants' experts have

---

[594] *Compañía de Aguas del Aconquija S.A. & Vivendi Universal S.A. v. The Argentine Republic*, ICSID Case No. ARB/97/3, Award of 20 August 2007 (CL-42).

[595] *France Telecom Mobile International, S.A. v. Lebanese Republic*, UNCITRAL, Award dated 31 January 2005 (CL-307).

[596] *Alpha Projektholding GmbH v. Ukraine*, ICSID Case No. ARB/07/16, Award dated 8 November 2010, para. 514 (CL-253).

[597] *Phillips B.V. v. Petroleum Company Venezuela Limited & ConocoPhillips Petrozuata Petróleos de Venezuela, S.A.* (ICC 16849/JRF), Award dated 17 September 2012 (CL-255).

[598] *SAUR International S.A. v. Argentine Republic*, ICSID Case No. ARB/04/4, Award dated 22 May 2014 (CL-341).

calculated the Projects' historical cost of equity at 13.0%. They apply this update factor for their 2016 (and 2007) valuations[599].

794. The Respondent objects to this approach and submits that it cannot be known what the Claimants would have willingly chosen to do with dividends from the Projects in a but-for world. Their experts go so far as to argue that the update factor should be the risk-free rate. In fact, the Claimants remained investors in the Projects, and remained exposed to the Projects' risks. The dividends that would have accrued to the Claimants were by compulsion reinvested into the Project.

795. The Respondent demands that the Tribunal apply an extremely low update factor of 1.30%. It essentially assumes that the Claimants would have put their money in a savings account. This update factor, as proposed by the Respondent's experts, is also unjustifiable in light of the 27.7% and 19.8% discount rate they propose for the 2016 and 2007 valuations. According to the experts, the risk associated with the cash flows generated by the Projects is 1.30% for historical cash flows, but 27.7% (or 19.8%) for future cash flows[600]. The asymmetry in the discount and interest rates proposed by the experts has the effect of artificially reducing the Claimants' recovery for both historical and future cash flows. This result is incompatible with the principle of full reparation.

796. The Claimants also note that a failure properly to compensate them for their opportunity cost would not only undermine the principle of full reparation, but would also lead to the unjust enrichment of the Respondent. By not paying compensation to the Claimants for the expropriation, Venezuela has had free access to the funds that it wrongfully appropriated. It was receiving the earning capacity of the borrowed money without compensation to the Claimants. The reasonable cost that Venezuela would have incurred in borrowing the amount in question is the rate at which investors lend to Venezuela, *i.e.* the yield on its sovereign debt. At present, that rate is close to 24%. The average rate since the date of expropriation has been approximately 15%. This is higher than what the Claimants seek.

797. Moving to post-award interest, the Claimants submit that the considerations are the same. The opportunity cost to the Claimants is the same: the Projects' cost of equity. The only difference is that the present-day cost of equity figure should be used, which is 15.2%.

798. The Claimants further contend that both the update factor and post-award interest should be granted on a compound basis. The Respondent claims that simple interest is called for by both Venezuelan law and international authorities. This is wrong on both counts. Principles of Venezuelan law play no role in an analysis based on customary international law. The prevailing trend

[599] Abdala/Spiller, Consolidated Update Report, 17 November 2016, para. 103, table 5.

[600] Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, para. 662, table 43.

among investor-State arbitration tribunals is to award compound pre-award interest, as an element of full reparation for violations of international law. The *Occidental* tribunal concluded that the recent practice in favor of compounding interests accords with the *Chorzów* principle[601]. It is the norm in recent expropriation cases under ICSID. Accordingly, historical lost cash flows should be updated to present value at a rate of 13.0%, and post-award interest should accrue at a rate of 15.2%. Both should be subject to reasonable compounding, under an annual periodicity, because the cost of equity is calculated on the basis of expected annual returns. The Tribunal would also be justified in applying a rate of 15%, Venezuela's average borrowing rate since the expropriations.

2. The Respondent's Position

799. The Respondent submits that it would be appropriate to deny any pre-award interest in this case, for two reasons. First, if the Claimants had accepted the generous offers made to them in 2007, instead of insisting on compensation "on top of the fair market value of the assets", this Arbitration would never have been necessary. Second, if the Claimants had not misled this Tribunal with their misrepresentations on the compensation negotiations, this case in all likelihood would have ended long ago. If any interest is to be awarded, it should be calculated as provided below, depending upon whether the valuation made is with or without taking into account the compensation provisions of the Petrozuata and Hamaca Projects.

800. If the first alternative applies, the Respondent notes that the Parties agree that pre-award interest (if any) for the Petrozuata and Hamaca Projects in both the *ex ante* and *ex post* scenarios applying the compensation provisions should be calculated using the interest rates specified in these provisions. For Petrozuata, the interest rate is the LIBOR for 12-month deposits, in accordance with Sections 1.01 and 9.07(d) of the Petrozuata Association Agreement. For Hamaca, the interest rate is the 3-month LIBOR, as specified in Section 14.3(d) of the Association Agreement.

801. There are only two remaining differences between the Parties with respect to the calculations of pre-award interest. First, the Claimants apply compound interest, whereas the Respondent uses simple interest. Simple interest is called for by both international authorities and Venezuelan law. Although the Claimants have argued that compound interest is the norm in international arbitration, this is contradicted by a long line of authorities, including the *Yukos* Awards, where the tribunal not only applied simple interest to the pre-award period but also granted a 180-day grace period for payment of the award during which no post-award interest applied[602]. With respect to Venezuelan law, which governs the Association Agreements, compounding is allowed in only two

[601] *Occidental Petroleum Corporation and Occidental Exploration and Production Company v. The Republic of Ecuador*, ICSID Case No. ARB/06/11, Award dated October 5, 2012 (CL-256).

[602] *Hulley Enterprises Limited (Cyprus) v. The Russian Federation*, UNCITRAL (ECT), PCA Case No. AA 226, Final Award dated July 18, 2014 (R-424); *Veteran Petroleum Limited (Cyprus) v. The Russian Federation*, UNCITRAL (ECT), PCA Case No. AA 228, Final Award dated 18 July 2014 (R-426).

situations contemplated in Article 530 of the Venezuelan Commercial Code (R-166), neither one being applicable in this case. Therefore, only simple interest can be awarded. The second difference is due to an arithmetical error on the part of Claimants in their *ex ante* valuation, when they calculated interest individually for each of the Hamaca and Petrozuata Projects, and then added those numbers. The error results in an amount of US$ 135 million.

802. In the scenario where the valuation is disregarding the compensation provisions, the Respondent notes that a huge gap remains between the Parties. The Claimants propose a figure of 13%, using a cost of equity analysis that is wholly inappropriate to the determination of pre-award interest. The Dutch Treaty establishes that compensation for expropriation should "include interest at a normal commercial rate" (Article 6c). The Claimants argue that the Treaty standard does not apply "where a respondent has expropriated in violation of the Treaty's requirements, as Venezuela has done here". There is now no doubt that the Tribunal's decision on bad faith is unsustainable; this should dispose of the Claimants' attempt to avoid the Treaty standard.

803. It is well established that pre-award interest should be based on a short-term, risk-free rate, reflecting the borrowing costs that the Claimants would normally expect to incur on a commercial basis in a "but-for" world. If the Claimants had planned investments to be financed with the dividends from the Project, they could still have made them with short-term borrowing. This approach is supported by a wealth of authority. On this basis, the Respondent's experts concluded that the appropriate rate should be the three-month US Treasury rate plus 1%. The same approach should be followed in respect of post-award interest.

804. The Respondent objects that the Claimants' experts' interest rate of 13% is based on the flawed premises that the Claimants were "forced" to reinvest historical cash flows in the Projects and they should therefore be compensated for the risks of that compelled investment. That approach would in effect compensate the Claimants for risks that they did not bear rather than place them back in the position they would have occupied in a "but-for" world. The flaws in Claimants' "cost of equity" approach have been repeatedly exposed in commentary and arbitral decisions.

805. The Respondent also refers to the decision in *Tza Yap Shum*[603], where experts from the same consulting firm than Claimants' experts in this case argued that it was not appropriate to use the claimant's cost of equity to calculate pre-award interest. The use of financing costs is not appropriate when the risk premium included in those costs disappears at the moment the company is expropriated. The *Tza Yap Shum* tribunal rejected the idea that interest should correspond to the cost of equity of the investment and awarded interest at a rate tied to US Treasury bonds.

[603] *Mr. Tza Yap Shum v. The Republic of Peru*, ICSID Case No. ARB/07/6, Award dated July 7, 2011 (R-566).

806. The Respondent also replies to the Claimants' argument that a "comparable rate" should be used for interest and discount rate. In its view, the opposing Party ignores the fact that the discount rate applies to future cash flows, which are affected by all relevant risks, while the interest rate applies to historical cash flows, which are not affected by those risks. The recent *Vestey* award rejected claimant's approach, finding that it would reward them for risks that they had not born[604]. The tribunal also rejected the claimant's alternative that the interest rate should be the cost of capital of the investment, finding that this would compensate it for risks that it did not assume after the expropriation. The *Vestey* tribunal ultimately found that the appropriate interest rate was a risk-free rate applicable to US currency debt, *i.e.* the six-month US Treasury bond rate, noting that this conclusion was supported by the practice of international tribunals.

3. *The Tribunal's Findings*

807. In light of the explanations provided above and the detailed analysis of the negotiations between the Parties and of the representations made in this respect, the Tribunal can refer to its Interim Decision dated 17 January 2017, thus replying to the Respondent's argument that this Arbitration may not have been necessary.

808. The Tribunal also notes that the question to be answered here is not simply one about "interest". Interest represents generally a proportion of an amount lent, deposited, or borrowed. Such proportion is usually expressed through a percentage representing interest, or a rate. Interest is a profit derived from an amount of money. However, profits other than interest can result from such amounts. This is the case when capital is invested for the purpose of production of goods and services that have values that may be expressed in terms of money, but that are not interest.

809. In the instant case, the principal capital from which an eventual profit is to be determined are the dividends the Claimants were entitled to receive in a but-for scenario on a yearly basis and for each of its respective Projects. The Claimants argue that they were "forced" to leave these dividends in the Project. While the term "forced" may not be appropriate, the fact is that the amounts corresponding to each of the Claimants' share of dividends remained in the Projects. They were not paid to these Parties and they were not consigned in a separate account or used for any other special purpose distinct from the Projects' operation. As a simple matter of fact and contrary to the Respondent's assumption, the dividends could not have been used by the Claimants for the purpose of financing other investments. The profit resulting from the dividends, as they remained in the Projects, cannot be compared to the costs for short-term borrowing of money on the market.

810. The Tribunal has already determined that the profit accruing to the Claimants during the historical period from the Projects' operation in the hypothesis the Association Agreements would

[604] *Vestey Group Limited v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/06/4, Award dated April 15, 2016 (BF-502).

have continued to apply as if no expropriation had taken place. That profit was retained by the Respondent from the dividends it withheld, which would have accrued if the but-for operation of the Projects is considered together with the assumption that these dividends were not released and remained in the Projects' accounts. The situation is therefore completely different from the Respondent's hypothesis where the Claimants would have borrowed money on a short-term basis at a rate of 1.5%. Even if that would have been done, the fact remains that the Projects' holder retained the amounts reserved for the payment of dividends, including its inherent potential of profit resulting from the Projects' operation[605].

811. As a matter of fact, these dividends remained part of the Projects' resources and were undoubtedly used in support of the Projects' operation. They represented therefore an additional resource for the Projects, corresponding – in a but-for scenario – to an increase of the Claimants' financial support and investment. Such an increase served the financing of the Projects. Its value must be determined, however, not on this basis alone. It must include the profit generated by the Projects in proportion to the investment made.

812. The Claimants' experts have used as reference the cost of equity required from an investor as a minimum rate at which it could be convinced to postpone the collection of the dividends[606]. The loss suffered by the Claimants in this respect resulted in an increase of the investment in the Projects through the retention of dividends not paid out. Such reference is project-related and not related to the equity market.

813. The Claimants' experts observed that, in principle, the Claimants would have voluntarily reinvested additional monies in the Project only if they expected to receive back at least the Project's cost of equity. The cost of equity of the Projects is the minimum rate at which such investors would have voluntarily reinvested additional monies in the Projects[607].

814. While the Claimants' experts' principle is clearly set out, the resulting figures are difficult to understand. The Consolidated Report refers in a footnote to other reports where the respective rate was determined as 10.6% (2007), 10.8% (2008), 11.7% (2009), 11.8% (2010), 14.5% (2015) and 15.2% (2016), and the appropriate rate for the full historical period as 13%[608]. The experts

605 The Tribunal also notes that the awards referred to by the Respondent for its approach retain the date of expropriation as valuation date. Cf. *Mr. Tza Yap Shum v. The Republic of Peru*, ICSID Case No. ARB/07/6, Award, dated July 7, 2011, paras. 286-292; *Vestey Group Limited v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/06/4, Award dated April 15, 2016, paras. 436-449 (BF-502).

606 Cf. Abdula/Spiller, March 2016 Update, 18 March 2016, para. 65.

607 Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, para. 84.

608 Consolidated Update Report, 17 November 2016, footnote 35, para. 103. General explanations (not related to numbers) are given under paras. 27, 96-99. In another report, the percentages were 14.5% for May 2014, 15.4% for October

further refer to their April 2016 Report, where these numbers are not mentioned or explained, further reference being added to two earlier reports[609]; the main focus is the criticism of the Respondent's experts' suggestion to retain a risk-free rate of about 1.5%. The experts' October 2014 Report simply repeats that the rate for historical cost of equity was 11.7%, further pointing to the discrepancy in the Respondent's experts' position when they adopt an actualization rate of 1.4% for past cash flow, whereas they retain 23.3% for the discount rate applied to future cash flow[610]. The May 2014 Report also mentions the 11.7% rate[611]. The matter has then to be traced back to the LECG Second Report where it is stated in a footnote that the experts determined that the costs of equity of the Projects are 11.87% for Petrozuata, 11.88% for Hamaca and 11.70% for Corocoro as of September 30, 2009[612].

815. On the other hand, retaining low rates for interest, like the 1.4% rate suggested by the Respondent, would make it substantially attractive for the Project holder to borrow money from the investor at such rate through the retention of dividends not released, instead of paying a significantly higher market rate for borrowing money (as the rates around 8% that were paid to the Petrozuata's bond holders, or the 1.5% rate suggested by the Respondent in case of a short-term borrowing). Even if it were considered that the Claimants do no longer bear the risks of the Project, they were entitled to receive the profit resulting from their investment at a value taking into consideration the inherent risk factors of their investment. If it is assumed that the dividends that were not distributed were used to cover costs, like CAPEX or OPEX, the reduction in financing such costs would also represent a value corresponding to the reduction of the profit to be received by the shareholders which does not correspond to the rate they would have to pay for borrowing short-term money on the financial market. In any event, it seems highly unrealistic to assume, as the Respondent's experts seem to do, that an investor would find money to borrow on the exclusive basis of risk-free rate at the level between 1% and 2%, when the Project includes an industry risk and a (specific) country risk component that raises the cost for equity far above 10%, as accepted by these experts in their own submission in respect of the value of dividends in case of a discount of future profits.

2014, and 16.7% for March 2016, also concluding at an average rate of 13%; March 2016 Update, 18 March 2016, footnote 30.

[609] Rebuttal Report, 21 April 2016, paras. 63-67

[610] Cf. Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014, paras. 14, 78-80, 109-111, 248.

[611] *Ibidem*, footnote 26, para. 76.

[612] Second Valuation Report of ConocoPhillips' Investments in Venezuela, 2 November 2009, Appendix A, footnote 7. The percentages provided are not explained, neither as such nor in comparison to the cost ratings for the discount rate – of about 1% to 2% lower –, which seems to be related to the impact of the cost of debt rate. Further reference is provided in LECG-237, where numbers are supported by further numbers but not explained as to their pertinence.

816. The Tribunal finds that the Respondent's approach to determine interest on dividends is not acceptable, the same way as it is not acceptable that the host State retains earnings from the sale of crude oil while paying the expropriated investor a minimal price having no relation to market prices. It appears unreasonable that the Respondent's Projects' holders would retain dividends over years and make profit resulting from it at the rate inherent in the Projects' operational configuration, while the Claimants would have to be content with the most minimal rate available on the money market. Such rate would not cover the risk inherent when the Claimants would use the borrowed money for the purpose of an investment into the Projects.

817. The rate of profit resulting from the dividends, or, as it may be simply said, the interest resulting from such principal capital has the function that it should reflect the profit the investor can expect to receive from the Project in light of all of its operational circumstances. Such interest should not be below this level, because this would have the effect of providing the holder of the Project with an undue advantage because it would retain money at a lower cost than what it would have to pay when borrowing money from an investor[613]. On the other hand, the Claimants' claim for recovery based on the profit resulting from the dividends not released should not be higher than this level, unless there would be evidence for serious expectations that the resulting benefit from the equity withhold in the Project would be significantly higher. It would be contradictory, as this results from the Respondent's and their experts' arguments, to simply say that the Claimants having left the Projects in June 2007 have no longer been in a position to support any risk in the Projects and that, therefore, their indemnification must be reduced to a risk-free level on the money market. Such reasoning ignores that in a but-for scenario where no expropriation had taken place, the Claimants would have been entitled to retain profits arising from the Projects by taking account of all risks underlying the determination of such profits. This is what has been "taken away", not the costs for borrowing risk-free money.

818. Therefore, the appropriate rate must be set at a level at which the investor expects to retain a profit, by keeping the amount corresponding to the dividends within the Projects. Such rate should represent the sum of risks inherent in the Project and expressed in the form of a proportion of profit, or interest. It represents the level at which the investor, all factors considered, accepts to assume the investment in considering the assessment of risks related to the Projects' operation.

819. The Claimants and their experts use the term "update factor" as an equivalent to interest that has the purpose of compensating the damaged party for the time delay in collecting the funds of which it was deprived between the date of deprivation and the date of the Award. In other words, the Claimants are to be restored to the position they would have had if the collection of dividends had not been interrupted through the expropriation and they would have decided willingly to retain those dividends within the Project. In such a case, the Claimants' bargain represents the return at

[613] Cf. *Phillips B.V. v. Petroleum Company Venezuela Limited & ConocoPhillips Petrozuata Petróleos de Venezuela, S.A.*, ICC 16849/JRF), Award dated 17 September 2012, para. 295 (CL-255).

the minimum level at which they would have expected to make a profit. The update factor is equal to the Claimants' cost of equity for financing the investment in the Projects. It reflects the increase in value actualized to the date of valuation.

820. The Tribunal assumes in a first step that the cost of equity determined by the Claimants' experts is correct. This interest has been initially set at 11.7%, but in the course of the economic development came up to 15%, resulting in an average of 13%. The Respondent must fail in its position that the value of the dividends withheld in the Projects should be brought forward at a level of around 1.5% as if these amounts had been set aside in a bank account or borrowed from a bank. The Respondent did not comment further on the percentages indicated by the Claimants, except through its basic rejection of the approach adopted by the Claimants' experts. Nevertheless, the Claimants' experts' information is incomplete and of limited evidentiary support. First, neither the initial figure of 11.7% nor the later percentages were supplied with explanation or further documentary evidence. Second, the information for several years is missing, before the rate climbs over 14% in 2014 and 15% in 2015, a difference that would normally call for reasons to be given. The average of 13% submitted by the Claimants thus represents a number having uncertain foundation, in particular in light of the important consequences that are drawn therefrom in respect of the updating[614].

821. Further, the Tribunal notes that the rate for historical cost of equity suggested by the Claimants' experts is based on the assessment on profits derived from the Composite Economic Model (CEM), including in particular the figures on production and costs that were retained at that time, by the end of 2006 and still applicable before the expropriation. The update factor may have been set at 13% at that time, but such percentage must be adjusted in light of the conclusions the Tribunal reached in this Award in respect of production and costs. The Tribunal found different quantities and amounts in this regard, after a detailed analysis of production and costs of each of the three Projects. This examination was based on all of the elements of evidence on the Tribunal's record, based on a prudent and realistic assessment. Compared to the Model the Parties use as prepared towards the end of 2006 and still reliable in June 2007, the Tribunal's assessment is different. The said Model was based on business estimations that were certainly prepared seriously, with a high degree of professionalism, but they may also have received an input of optimism that may have designed the future of the Projects better than what it finally became. It may be sufficient to note here the cliff on productivity as of the end of year 2023 that affected the Petrozuata Project that was not recorded in the early Model of 2006, and the difficulties the Hamaca upgrader was facing. The Tribunal has thus adopted values in respect of both production and costs significantly different. The effect of these differences is that the overall profitability of the Projects appears reduced in comparison to the initial estimation in the CEM. The Tribunal measures the overall impact of such

[614] At the 2017 March Hearing, the average of 13% was confirmed and further explained as being obtained by reference to the average stock market return of the largest five companies of a sample, thus obtaining 11%; TR-E, 2017 March Hearing, Day 11, p. 3342:5/6, 3343:7-21 (Spiller).

reduction in proportion of profit at about 25%, comparing the figures retained in the CEM to those retained in this Award. This leads to a reduction of the project related update factor from 13% to 9.75%.

822. Cost of equity represents amounts re-invested in the Project. However, the amounts re-invested do not have the effect of increasing dividends. They contribute to the financing of the projects, in one way or another; when this is accomplished, they do not further improve the financing or increase the investment. In other words, the year-by-year value increase generated from the dividends remaining in the Projects does not produce an effect comparable to the compounding of interest.

823. Once the dividends and their update value have been determined for the historical period between the date of the expropriation and the date of end 2018 retained by the Award, the question may be raised and has to be answered whether the resulting amounts should be discounted back to 26 June 2007, the date of the expropriation, when the right for compensation originated from Article 6c of the BIT. At that point in time, the right for compensation could not have been assessed otherwise than through a discount of the estimated future profits resulting in favor of the Claimants had they remained on the Projects. Some of the decisions quoted by the Claimants in support of the allocation of pre-award interest also deal with the allocation by reference to the date of the injury. They have accepted that the resulting amount be discounted to the time of the expropriation or any other violation of a BIT relevant in the particular case[615]. The *Alpha* Tribunal awarded pre-award interest, as the Claimants noted correctly, but the Tribunal also ruled that the future revenue streams were to be discounted to the day of the expropriation[616]. In the case of *Telecom*, the Claimants note that a pre-judgment interest of 10% was awarded; this had been done, however, in combination with a discount back to the date of the breach of the BIT[617].

824. However, when the value of future revenue is to be determined, or *ex post*, any discount is justified only in a situation only where payment of compensation is to be assessed as per the day of such payment, together with an appropriate commercial interest. Such discount cannot operate in relation to amounts of money that are assessed on the basis of actual facts in the historical period, resulting in profits that are not owned in the future but were due to the Claimants had they remained in the Projects. In the present case, no compensation was provided by the Respondent as from the

---

[615] The relevance of the *Vivendi* award seems doubtful in this regard in light the fact that the claim for lost profit was rejected for lack of evidence. Cf. *Compañía de Aguas del Aconquija S.A. & Vivendi Universal S.A. v. The Argentine Republic*, ICSID Case No. ARB/97/3, Award of 20 August 2007, para. 8.3.11 (CL-42). The Tribunal noted that the claim for anticipated future cash flow was discounted (para. 8.1.2).

[616] *Alpha Projektholding GmbH v. Ukraine*, ICSID Case No. ARB/07/16, Award of 8 November 2010, paras. 481-483, 491, 493, 497 (CL-253).

[617] *France Telecom Mobile International, S.A. v. Lebanese Republic*, UNCITRAL, Award dated 31 January 2005, paras. 202, 209 (CL-307).

day when it was owned to the Claimants based on Article 6c of the BIT. Therefore, the Claimants' claims are to be evaluated at their value at the time of this Award, including profits accruing in a but-for scenario up to that date. Any discount back to 2007 would result in an enrichment of the Respondent who would retain the difference between (i) the profits it would have obtained had it operated the Projects under the circumstances pertinent in case no expropriation had taken place and (ii) the discounted amount that would be left for the Claimants, together with interest determined at a commercial rate.

825. The Tribunal has noted that the argument could be made – in light of the duration of this proceeding – that in case the Claimants would recover the full benefit accruing during the historical period (until the time the Award is rendered), and assuming that the earnings allocated for the post-award period are discounted, the Claimants would recover a benefit simply through the passage of time during which the arbitral proceedings are moving forward. The profit accruing from the Projects in a but-for scenario that the Claimants' claim to be applicable appears to be higher than the recovery of the discounted post-award dividends. It would seem, so the argument, that such on-going accrual of benefit is not based on any causation link to the expropriation. The Tribunal notes, however, that the argument is misleading: the difference between pre- and post-award allocation of moneys is not based on a variation in the valuation of the Claimants' benefit (before and after the time of the award). It is based simply on the fact that at the date of the Award, the Claimants receive their future profits, determined on the same basis than for the historical period, together with a discount that accounts for the fact that they receive – or should receive – the future profits awarded by the Tribunal at the time of the Award and not in later years when they would be due had the Claimants remained in the Projects.

826. Finally, with regard to post-award interest, the main question that arises is whether there are grounds for diverging from the method and rates applied to pre-award interest.

827. The Tribunal notes that the damage incurred by the passing of time is largely the same after the issuance of the Award as before. However, after the issuance of the Award, the compensation of the Claimants' losses is no longer based on the Projects nor does it further result from their investment. The purpose of post-award interest is to compensate the loss suffered by the Claimants due to the fact that the discounted value of future dividends has not been paid and the corresponding amount was not available to the Claimants for their usual business, separate from the Projects. Therefore, there is no necessity based on logic or economics that would require the updating interest of the historical profits to be the same as the interest bringing the value of the Award forward until effective payment. This does not mean, as the Respondent submits, that the increase of the value of the outstanding amounts should be measured through interest factors used for saving money on bank accounts. The Claimants' activity consists of operating business opportunities in the oil industry. Therefore, the interest should reach a level corresponding to the financing of such opportunities. As will be explained below when concluding about the appropriate discount rate, the

pertinent industry risk premium is 5.5%. The same percentage shall serve as post-award interest rate. If the interest was not set at this level, the Respondent would have an incentive not to pay the Award. This would result in an unjust enrichment that must be avoided.

828. In the instant case, post-award interest represents compensation for the loss of the money awarded. Such interest will not serve to increase the amounts of dividends to which the Claimants are entitled in a but-for scenario. Post-award interest serves to compensate the Claimants for the lack of revenue represented by the amounts awarded and the profit that the Claimants would most probably derive from it in the usual course of its business. This business is certainly not to have the money paid by the Respondent placed in a saving account with minimal interest. It must be assumed that the interest awarded and paid will become part of the Claimants' business and accumulate the profit derived from it. In order to comply with this economic component of the post-award interest accruing on the basis of this Award, such interest must be awarded on an annually compounded basis.

829. One exception must be added. The compensation awarded on the account of ConocoPhillips Petrozuata B.V. (CPZ) includes an amount of US$ 286,740,989 based on the compensation provisions of the Petrozuata Association Agreement. This amount follows the allocation of interest contained in these provisions, *i.e.* post-award simple interest to run until the date of full and final payment at 12-month LIBOR (Sec. 9.07(d), Sec. 1.01) or any other comparable rate in case LIBOR should be discontinued in the future.

XII. Discount Rate

830. The presentations of the Parties' experts are comparable in the sense that the discount rate has three components: (1) a risk-free rate, (2) an industry rate reflecting the risks of an equity investment in oil production, and (3) a country risk.

831. While their positions are very close on the two first elements, they are deeply divided in respect of the so called "country risk". The division of opinion is such that the comparison of the numerous and sometimes confusing arguments is difficult to follow, and in large part not useful due to the fact that assertions are made and theories presented without taking care of the need to remain connected to the specificities of the instant case and particularly, to the economics of the Projects at issue. The Tribunal will take those arguments that are relevant to the resolution of the instant case and will avoid the use of expressions used by the experts that make the matter confusing or that are presented by the experts in a way that is difficult to translate in the legal analysis that is required for the drafting of an award that provides the reasons that guided the members of the Arbitral Tribunal.

832. The confusion and uncertainty in the Parties' presentations on the issue of the discount rate is also due to the fact that they – together with their experts – spend more time and effort criticizing the opinions expressed by the opposing party than to explain their own position. Criticism, by itself, does not result in precise figures and conclusions, and is therefore of limited use for the Tribunal.

1. The Claimants' Position

833. The Claimants submit that a discount rate is used to convert the expected future cash flows (future production multiplied by prices, minus costs and net of applicable taxes) back to present value as of the date of valuation. The discount rate reflects the risk that the future cash flows will not materialize as projected, and also accounts for the time value of money. All else being equal, a higher discount rate leads to a lower present value of future cash flows. Selection of an appropriate discount rate is essential to achieving full reparation. The Claimants say that their discount rate is reasonable, conservative and appropriate.

834. Consistent with standard valuation practice, the Claimants' experts Abdala and Spiller have used the International Capital Asset Pricing Model (ICAPAM) "building blocks" approach. (i) Starting with a risk-free rate (1.9%), they (ii) added a factor reflecting the risks associated with an equity investment in the upstream crude oil industry in a developed economy like the United States (5.5%), which together with the risk-free rate yielded a discount rate for a U.S. upstream oil and gas project; and (iii) then applied a country risk premium to reflect the country-specific risks to which the Projects would have been exposed but-for their unlawful expropriation (4.2%). This shows a discount rate of 11.6%.

835. The Claimants explain that their experts base their country risk premium on the credit rating of the debt issued by the Petrozuata Project before the possibility of expropriation began to be discussed publicly. This rating at the time reflected the market's perception of the risk of an investment in the Petrozuata Project. The difference between that rating and the rating of a comparable investment in the U.S. yields the incremental country risk applicable to the Projects. The experts thus derive an updated discount rate of 11.6% for the 2016 valuation (and 8.9% for a 2007 valuation). Venezuela, by contrast, comes up with an indefensibly high discount rate of 27.7% for the 2016 valuation (and 19.8% for a 2007 valuation).

836. The Claimants note that their discount rates are: (a) consistent with the rates used by the Project participants and their affiliates throughout their relationship; (b) consistent with the discount rates used by investment bank analysts and global energy consultants; and (c) higher than the discount rate used by ConocoPhillips to value developed projects.

837. The Claimants also submit that their discount rates are consistent with the Projects' own practices. A report prepared by the Petrozuata Project in January 2000 shows PDVSA using a "real

discount rate" of 8.53% (C-323). Similarly, a Financing Memorandum prepared by the Hamaca Project in August 2000 applied a 10% discount rate (C-101), also used for Petrozuata (C-75), as this also results from the Offering Circular of 2013 (C-610). A document produced after the August 2016 hearing proposed a discount range of 8% to 12% (C-696). These discount rates are virtually the same rates that the Claimants' experts have calculated.

838. Proceeding with some comparisons, the Claimants observe that 8% to 12% discount rates are not outliers. The annual Consolidated Financial Statements for PDVSA and its subsidiaries have used discount rates of 10% to bring expected cash flows from PDVSA's proven oil and gas reserves to present value every year between 2008 and 2014 (C-593, C-616). The inconsistency is obvious. Venezuela discounts future cash flows at 10% when reporting to the global capital markets, but discounts at 27.7% when calculating the Claimants' damages.

839. In 2014 PDVSA endorsed the use of an 8% discount rate in valuing a natural gas project between PDVSA and foreign investors Eni and Repsol (C-619, C-617). In May 2010, Venezuela entered into a treaty with China concerning the development of the Junín 4 Block through a joint venture between a PDVSA subsidiary and the Chinese National Petroleum Corporation (CNPC). This Block is an extra heavy oil field in the Orinoco Belt; it was an undeveloped greenfield project and thus far more risky than Petrozuata and Hamaca. Nevertheless, Venezuela agreed in the Junín 4 Block treaty to apply a 10% discount rate (C-585), a rate that was endorsed by the National Assembly (C-586). Thus, the Venezuelan government has twice endorsed the application of a 10% discount rate for future cash flows generated by future projects riskier than an operating project. Outside the arbitration context, Venezuela itself uses discount rates that are close to, or lower than, those proposed by the Claimants.

840. The Claimants add that a significant body of arbitral tribunals have adopted discount rates comparable to the rates proposed by the Claimants, but have been largely ignored by the Respondent, like *Occidental Petroleum v. Ecuador* (12%)[618], *Enron v. Argentina* (12.6%)[619], *Alpha Projektholding v. Ukraine* (12.14%)[620], *Gold Reserve v. Venezuela* (10.09%)[621].

841. Turning to the analysis of the Respondent's experts' conclusions, the Claimants observe that they have constructed a made-for-arbitration discount rate of 27.7% for the 2016 valuation (and 19.8% for the 2007 valuation), with absurd effects such as the result that five years before the

---

[618] *Occidental Petroleum Corporation and Occidental Exploration and Production Company v. The Republic of Ecuador* (ICSID Case No. ARB/06/11), Award dated 5 October 2012 (CL-256).

[619] *Enron Corporation, Ponderosa Assets, L.P. v. Argentine Republic*, ICSID Case No. ARB/01/03, Award of 22 May 2007 (CL-60).

[620] *Alpha Projektholding GmbH v. Ukraine*, ICSID Case No. ARB/07/16, Award dated 8 November 2010 (CL-253).

[621] *Gold Reserve Inc. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB(AF)/09/1, Award dated 22 September 2014 (CL-328).

expiry of the Association Agreements, every dollar would have been reduced to less than two cents. The major source of divergence between the experts is the country risk premium: 4.2% for the Claimants' experts and 18.1% for Brailovsky and Flores. The purpose of such a premium is to account for the increased uncertainty or volatility of the Projects' cash flows resulting from the Projects being located in Venezuela as opposed to a more developed economy, such as the United States. The country risk must be assessed on a but-for basis. The inquiry is what the country risk would have been for these Projects (considering their specific characteristics, including their Treaty and contractual protections) absent unlawful conduct by Venezuela. But that is not the exercise undertaken by the Respondent's experts.

842. The first error the Respondent's experts have committed in the Claimants' views is to include in the discount rate the near-default status of Venezuela's sovereign debt. Venezuela is on the brink of economic collapse. Its sovereign bond yield is around 23%. The Respondent's experts impute the risk of an expected sovereign debt default to the Projects. However, the Projects have not been, and will not be, in financial distress bordering a bankruptcy. To apply to the Projects a country risk premium that reflects the likelihood that Venezuela will default on billions of dollars of sovereign debt is entirely unjustified. A but-for analysis should not be confused with an actual analysis. There is little, if any, relationship between the riskiness of a loan to Venezuela, which is close to defaulting on its debt, and the riskiness of the Projects. International tribunals have rejected the notion that the cost of debt of a sovereign that is in or near default represents an appropriate measure of country risk for a commercial enterprise, like in the *EDF*[622], and *Sempra Energy*[623].

843. In the view of the Claimants, the second major conceptual flaw in the Respondent's experts' study is that they refuse to accept the principle that a State may not avoid or reduce its liability for violating international law by relying on its own propensity to violate international law. They have factored into their discount rates Venezuela's record of unlawful expropriations and other breaches of legal obligations owed to foreign investors. Their country risk includes expropriation risks. This attitude is also evidenced by the experts' reliance on data apparently obtained from IHS Global Insight in 2009. However, data from or derived from IHS are not tailored to the specific nature of the Projects and inappropriately include the risk of unlawful expropriation or other unlawful state measures. The inclusion of unlawful state action would result in higher discount rates and thus allow Venezuela to benefit from its own unlawful acts. The prospect of an unlawful expropriation can create risk, but only to the extent that an investment enjoys no legal protection from that unlawful act. Therefore, when an investment enjoys protection against an uncompensated and unlawful expropriation, the discount rate must exclude that risk, because the investment is not subject to it.

---

[622] *EDF International S.A. et al. v. Argentine Republic*, ICSID Case No. ARB/03/23, Award of 11 June 2012 (CLEX-045).

[623] *Sempra Energy International v. Argentine Republic*, ICSID Case No. ARB/02/16, Award dated 28 September 2007 (CL-59).

844. The Tribunal's finding on the Claimants' protection against unlawful expropriation should have resulted in Venezuela excluding the risk of uncompensated expropriation from its calculation of country risk in this phase of the proceedings. Venezuela suggests that while the risk of the specific expropriation of the Claimants' assets may be excluded from the discount rate, the general expropriation risk caused by the State's background conduct can still serve to increase the country risk premium. In the *Gold Reserve* case, involving Venezuela's unlawful treatment of a mining investment in violation of the applicable BIT's fair and equitable treatment provision, Venezuela's experts proposed a discount rate between 16.5% and 23.8%, incorporating a country risk premium of between 6.7% and 16.4%. The tribunal rejected these premiums because they took account of Venezuela's policies at the time. It considered that it was not appropriate to increase the country risk to reflect the market's perception that a State might have a propensity to expropriate investments in breach of BIT obligations. The tribunal was correct. Any other result would reward violations of international law, and create an incentive for a State to take property in violation of its international obligations. The tribunal ultimately adopted a 4% but-for country risk premium, yielding a total discount rate of 10.09%. This discount rate is consistent with the discount rates derived by the Claimants' experts.

845. The Claimants note that the Respondent nevertheless insists that the risk of uncompensated expropriation should be included in a discount rate, relying on the awards in *Tidewater*[624] and *Flughafen Zurich*[625]. While *Tidewater* included expropriation risk in its valuation, there is an important distinction in comparison to *Gold Reserve*. *Tidewater* awarded compensation for a lawful expropriation. The same applies to the *Mobile* ICSID Award[626]. In any event, the *Tidewater* tribunal's analysis is unpersuasive and should not be followed. Reducing the value of the investor's compensation to account for the risk of unlawful conduct by the State creates a benefit for the wrongdoer. The *Tidewater* analysis allows compensation to be reduced based on a pattern of past unlawful conduct against other parties. As for *Flughafen Zurich*, the Respondent mischaracterizes what the tribunal did. The tribunal affirmed the principle that a State cannot benefit from its own wrongful acts. It found, however, that this principle did not apply to the specific facts of the case. The tribunal found that the 14.4% discount rate suggested by Venezuela was closer to reality than the 4.6% proposed by the claimants, and that it coincided with a 15% discount rate used in a business plan adopted prior to the expropriation. The only way to achieve full reparation, and to avoid a result in which a State profits from its own unlawful conduct, is to exclude from the discount rate the risks and occurrence of Venezuela's unlawful actions.

[624] *Tidewater Investment SRL and Tidewater Caribe, C.A. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/10/5, Award dated 13 March 2015 (R-642).

[625] *Flughafen Zürich A.G. and Gestión e Ingeniería IDC S.A. v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/10/19, Award dated 18 November 2014 (R-559).

[626] *Venezuela Holdings, B.V., et al. v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/27, Award dated 9 October 2014 (CL-348).

846. The Claimants further submit that the Respondent fails to account for the limited exposure of the Projects to general Venezuelan country risks. The Projects were largely insulated from such risks, as they (a) produced a commodity for which there is international demand; (b) sold their products abroad in U.S. dollars; (c) acquired critical inputs from international markets; (d) used little local capital; (e) were removed from population centers in Venezuela; and (f) had legal protections designed to reduce their exposure to adverse governmental actions. The Respondent's experts did not adjust their discount rate to take account of risk mitigating factors specific to the Projects, such as product sales abroad in U.S. dollars.

847. The Claimants' experts, by contrast, consider only the specific country risks to which the Projects would actually have been exposed in the but-for scenario. They did so by basing their country risk premium on the credit rating of the debt issued by the Petrozuata Project before the possibility of expropriation began to be reported publicly. The difference between that credit rating, and the credit rating of a comparable investment in a U.S. oil and gas project, yields the incremental country risk actually applicable to the Projects. It reveals how investors perceived the incremental risk of an investment in the Projects, taking into account their specific characteristics, including the fact that they had certain contractual and international law protections, but excluding the additional risks created by actual or potential unlawful conduct on Venezuela's part. The Respondent did not address any of the Project-specific factors. Its experts rely largely on the assertion that the Projects were not protected against expropriation.

848. The Claimants suggest clarifying further a number of notions that have been improperly used by the Respondent. Thus, there was a confusion made when the discount rate was conflated by the internal rate of return (IRR) that an investor would look for when deciding, at the outset, whether to invest in a proposed project. Venezuela points to Mr. McKee's testimony that the Claimants had a "hurdle rate" for their investment in the Petrozuata Project of 20% as support for the rate that Venezuela's experts now advocate for their valuation[627]. But IRR and a discount rate are different things: Only a discount rate measures risk; an IRR is the rate of return at which the net present value of future cash flows from a project equals zero. Witness Sheets explained: Once the risks at the beginning of a project are going to be reduced or eliminated, the discount rate would be lower, as the risks have been taken out of the project[628]. The critical distinction to be made is to know what level of risks remains in the project. To the extent risks go out of the project they would be discounted at a lower rate. On the other hand, the IRR would not be affected by such decrease.

849. The Claimants explain in this regard that by the time of the illegal expropriation, the Projects had confirmed the existence of huge quantities of extractable EHCO, and thus had proven

[627] TR-E, 2010 Hearing, Day 3, p. 731:7-732:17.

[628] Second Witness Statement of Jeff. W. Sheets, dated 14 May 2014, para. 6; TR-E, 2010 Hearing, Day 6, p. 1611:14-1612:7 (Sheets).

their ability to extract the oil, and the market for syncrude had been established. Accordingly, a great number of the risks that existed at the time of the investment decisions had disappeared by the time of the expropriation. Therefore, it would make little sense to apply the same measure of risk – the same discount rate – to the Projects at two different periods in their lives. The Respondent chose to ignore this distinction, even though its experts have recognized that an IRR and a discount rate serve different purposes and are used in different ways. The same distinction is made in Article 6 of the Junín 4 treaty between Venezuela and China, which applies a 10% discount rate to future cash flows, while targeting an IRR of 18% (C-585). The Projects routinely applied different IRR measures and discount rates.

850. The Claimants also contend that the comparison to a 3640-mile international gas pipeline from Alaska is not a useful comparator for the risk of the expropriated Projects in Venezuela. The Respondent seeks to convey the impression that the statements made by Conoco officers before the Legislative Budget and Audit Committee of the Alaska State Legislature justify the discount rates it is seeking in this case (C-575). Such comparison misses the mark. The proposed pipeline from Alaska would have been one of the riskiest construction project in the world. Nothing that has been said in respect of this project lends any support to the 27.7% discount rate that Venezuela now seeks to apply. Witness Sheets confirmed this understanding at the 2010 Hearing[629]. The discount rates referred to were specific to the risks associated to the Alaska pipeline. These discount rates have no bearing on the appropriate discount rates for the developed Projects in this case. Dr. Finizza's presentation to the Committee in 2006 can stand for not more than the fact that a project in Venezuela faces higher country risk than would an identical project in the U.S.

851. Finally, the Claimants note that the Respondent is unable to find support in the case law for its exaggerated discount rates and instead cites a handful of easily distinguishable awards. In the *Himpurna v. Indonesia*[630], the underlying asset was a geothermal electricity project that had only reached the exploration phase during an economic crisis in Indonesia. The project was exposed to high construction and operational risks because it was at a nascent stage and was driven to a single local market. The tribunal noted the claimant's failure in that case to account for country risk altogether.

852. In *Lemire v. Ukraine*, the tribunal applied a discount rate of 18.51%. That case is uncontroversial, when concluding that (a) a discount rate must reflect some measure of country risk; and (b) a company in the United States is exposed to less country risk than the same company would face in Ukraine[631]. The case presents a number of distinctive features: (a) First, *Lemire* involved

[629] TR-E, 2010 Hearing, Day 6, p. 1610:17-1611:6.

[630] *Himpurna California Energy Ltd. (Bermuda) v. PT (Persero) Perusahaan Listruik Negara (Indonesia)*, Final Award dated 4 May 1999 (R-252).

[631] *Joseph Charles Lemire v. Ukraine*, ICSID Case No. ARB/06/18, Award dated 28 March 2011 (R-461).

damage to a small private broadcasting company operating exclusively within the Ukrainian market, and therefore depending on most volatile radio advertising revenue in post-Soviet Ukraine. (b) Second, a significant part of the venture's future prospects was based on the individual claimant personally, thus adding a risk relating to eventual succession issues. (c) Third, the asset being valued was at the pre-development stage. (d) Finally, because the broadcasting company had no debt, the tribunal applied a discount rate of 18% based on the cost of equity, instead of the 13% WACC. The *Lemire* decision offers no comparison and support for the application of the discount rate proposed by Venezuela in this case.

853. The Claimants note that the Respondent seeks to rely on the 18% discount rate applied by the *Mobil* ICC and ICSID tribunals. In the ICC Award *Mobil Cerro Negro v. PDVSA*[632], (a) the tribunal mistakenly used the rate of return to ExxonMobil's shareholders as a basis for the discount rate applicable to the future stream of indemnity payments from PDVSA; the tribunal misunderstood the distinction between a discount rate, which measures future risks, and a historical rate of return, which measures past profitability; (b) it was left without a reasonable alternative to PDVSA's discount rates, and thus adopted a rate proposed by PDVSA; (c) finally, the *Mobil* ICC award decided (i) contractual "Discriminatory Measures" claims, (ii) based on contractual compensation provisions, and (iii) under Venezuelan law – not damages for the fair market value of an expropriated asset under customary international law. The more recent ICSID award in *Venezuela Holdings v. Venezuela* adopted the same 18% discount rate[633]. The ICSID tribunal's concern was to avoid inconsistencies between the two cases. However, if this had been the main concern of the tribunal, it would have been preferable to follow the approach of the ICC tribunal in *ConocoPhillips v. PDVSA*, where a rate of 10.55% was applied to value the lost cash flows from one of the same Projects at issue here[634]. Although the *Mobil* ICSID tribunal included expropriation risk in its calculation of the discount rate (which departs from settled principles), it did so in the context of a lawful expropriation, subject to the compensation standards provided by the applicable treaty. In the instant case, Venezuela's expropriation was unlawful, and the customary international law standard of full reparation therefore applies. Any other outcome would allow Venezuela to profit from its own wrongdoing.

854. In conclusion, the Claimants submit that in all events, specific discount rates adopted in previous decisions are necessarily less instructive than the legal and economic principles underlying the choice of a particular rate. Here, the legal principle is an award of full reparation. Therefore, the discount rate should reflect, but not overstate, the actual country risks to which these particular

[632] *Mobil Cerro Negro, Ltd. v. Petróleos de Venezuela, S.A. and PDVSA Cerro Negro, S.A.*, ICC Case No. 15416/JRF/CA, Final Award dated 23 December 2011 (R-462).

[633] *Venezuela Holdings, B.V., et al. v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/27, Award dated 9 October 2014 (CL-348).

[634] *Phillips B.V. v. Petroleum Company Venezuela Limited & ConocoPhillips Petrozuata Petróleos de Venezuela, S.A.* (ICC 16849/JRF), Award dated 17 September 2012 (CL-255).

Projects, at their advanced stage of development and benefitting from important contractual and international law protections, would have been exposed in the but-for world. The discount rates adopted by the Claimants' experts are reasonable and conservative, and they are consistent with the discount rates adopted by other tribunals, PDVSA and Venezuela itself. By contrast, the discount rates presented by the Respondent's experts are inflated and designed to allow Venezuela to escape its obligation to provide full reparation or anything approaching it.

2. *The Respondent's Position*

855. The Respondent submits that basic principles must be observed in any serious discount rate analysis. One of those principles was described in the *Himpurna* case as "the fundamental issue of country risk"[635]. This means that a project in Venezuela cannot be evaluated with the same discount rate as a project in Texas. The Respondent's experts Brailovsky and Flores have presented a discount rate analysis that utilizes well-recognized and widely respected methods for calculating an appropriate discount rate. Their conclusion was that such a rate as of 26 June 2007 would be 19.8%. They also analyzed the proposed 2007 discount rate of the Claimants' experts, an average of 9.53%, showing that they effectively ignore the fundamental issue of country risk and do not even correctly apply their own methodology. The conclusions of the Respondent's experts are the only ones consistent with (i) those of other tribunals in cases involving the very same nationalization as it is at issue here and (ii) statements made by the Claimants' own representatives, their experts and counsel in other proceedings.

856. The Respondent notes that the Claimants are unable to distinguish this case from the two *Mobil* decisions, one in the ICC case[636] and the other in the ICSID case[637]. Both were based on the 2007 nationalization, and both involved an upgrading project in the Orinoco Oil Belt under an association agreement that included "Discriminatory Action" provisions similar to those in the Petrozuata and Hamaca Association Agreements. Both tribunals rejected Mobil's positions on quantum, awarding less than 10% of the claim; both held that the appropriate discount rate was 18%. The *Mobil* claimants could not avoid the fact that the Cerro Negro project at issue in their case, a sister project of Petrozuata and Hamaca, was in Venezuela, not in Texas, and that any proposed discount rate that does not take into account full country risk cannot be taken seriously. On the Respondent's side, the experts were the same as in this case; both *Mobil* tribunals obviously found their analyses persuasive.

[635] *Himpurna California Energy Ltd. (Bermuda) v. PT (Persero) Perusahaan Listruik Negara (Indonesia)*, Final Award dated 4 May 1999, para. 364 (R-252).

[636] *Mobil Cerro Negro, Ltd. v. Petróleos de Venezuela, S.A. and PDVSA Cerro Negro, S.A.*, ICC Case No. 15416/JRF/CA, Final Award dated 23 December 2011 (R-462).

[637] *Phillips Petroleum Company Venezuela Limited & ConocoPhillips Petrozuata B.V. v. Petróleos de Venezuela, S.A.*, ICC Case No.16848/JRF/CA (C-16849/JRF), Award dated 17 September 2012 (CL-255).

857. The Respondent recalls that it explained the relevance of the reasons retained by the *Mobil* ICC tribunal in its letter submitted to this Tribunal on 18 March 2012. The Respondent noted that the Claimants misunderstand what the ICC tribunal was doing, which was obviously to select a discount rate to obtain the present value of future cash flows. The actual IRR of a particular project is not, as the Claimants seem to think, what the ICC tribunal relied on. But the minimum expected IRR a buyer would demand in determining whether to enter into the project, also known as the "hurdle rate", is of course relevant. If a project is not expected to yield an IRR at least equal to the hurdle rate, the company will not invest. The kind of returns the Claimants expected from the Projects is relevant in determining the hurdle rate prospective buyers would likely use in deciding whether to invest in the Projects at issue in this case. Witness McKee told the Tribunal that the Petrozuata Project was approved at about a 20% IRR[638]. Other evidence in the record, including the testimony of ConocoPhillips's own chief economist, Marianne Kah, in Alaska in 2006, and the testimony at the same Alaska hearing of Econ One's Dr. Finizza, the former chief economist of Arco (a former partner of Phillips in the Hamaca Project), are to the same effect (C-575).

858. The Claimants further argue that the *Mobil* ICSID Award is irrelevant because the discount rate was calculated in the context of a lawful expropriation, subject to the compensation standards provided by the applicable treaty. Several points are to be made. First, the discount rate analysis did not depend upon the issue of the legality of the expropriation. Second, the expropriation that was found lawful in the *Mobil* ICSID case is the same expropriation that is at issue here. Third, a willing buyer would consider all political risks in determining what discount rate to apply in calculating a purchase price for the Claimants' interests as of the valuation date, including not only expropriation, but also the risk of fiscal measures. Fourth, it is surprising that the Claimants are still relying on this argument although it became clear after the August 2016 hearing that no finding of unlawful expropriation has ever been made and that there was no bad faith negotiation. It is truly difficult to imagine a case more on point on the issue of discount rate than the two *Mobil* decisions.

859. The same rigorous discount rate analysis was performed by the same experts in *Tidewater v. Venezuela*[639]. This case also involved nationalization, albeit not as politically sensitive, as it related to the maritime service business. The tribunal adopted a country risk premium of 14.75%, yielding a total discount rate of approximately 26%. The tribunal stated that the country risk factor was not specific to the particular State measure that gives rise to the claim. Rather the country risk premium quantifies the general risks, including political risks, of doing business in the particular country. The inescapable fact is that these cases cannot be meaningfully distinguished from this case. They provide the most directly relevant and valuable guidance on the discount rate issue here.

[638] TR-E, 2010 Hearing, Day 3, p. 731:7-732:17.

[639] *Tidewater Investment SRL and Tidewater Caribe, C.A. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/10/5, Award dated 13 March 2015 (R-642).

860. The second point to be stressed, according to the Respondent, is that the Claimants' discount rate analysis cannot be reconciled with their own statements and positions taken in other proceedings. The Claimants try to confuse the issue by distinguishing the concept of the discount rate from that of internal rate of return or hurdle rate. It is elementary that the minimum expected by an investor in order to make its decision to invest in a project is precisely equivalent to the discount rate. If an investor's hurdle rate for a project is 20%, it will not invest in the project unless, applying a discount rate of 20% to the projected future cash flows, a positive result is achieved. Otherwise, the 20% expected IRR or hurdle rate would not be achieved based on the projected cash flows. The Respondent pointed out the connection between minimum expected IRR or hurdle rate, on the one hand, and discount rate, on the other, in its letter of 18 March 2012. As stated in a textbook, terms as "minimum rate of return", "hurdle rate", "discount rate" and similar, are all interchangeable with the term "cost of capital". They represent "opportunity cost of capital" and must not be confused with the "financial cost of capital", which is the cost of raising money by borrowing or issuing new bond or related debt/equity offerings. Other definitions of "hurdle rate" can be found. They focus on the notion of minimum rate of return required in order to make an investment. For setting such rate, risk, costs of capital, and projected investment returns are all factors to be considered. Anyone using a discount rate lower than the hurdle rate in determining whether to enter into a project would be grossly overpaying for that project. Witness McKee acknowledged that Conoco's hurdle rate for the Petrozuata Project was 20%. Witness Sheets explained that as an investor, they determined what kind of return they would get on the capital investment; that is what is referred to as the "internal rate of return". He agreed that if the Tribunal were to use a 10% discount rate, it would come up with a higher value than if you would use a 19% discount rate. The Claimants' expert, Mr. Moyes, noted in a presentation in the year 2013 that in the industry a 20-30% Expected Rate of Return is acceptable (R-560).

861. Another ConocoPhillips Executive Vice-President said in a meeting that their projects in Western Canada have rates of return above 20% (BF-465). The Claimants had argued that Dr. Finizza had supported a 10% discount rate in the proceeding in Alaska. But a document shows that the appropriate rate considered at the time by the Claimants and their experts was at least double of approximately 10%. In his 2005 presentation in the Alaska proceeding, Dr. Finizza explained that projects need to be evaluated at the risk-adjusted cost of capital, which may be above the Weighted Average Cost of Capital (WACC) due to the fact that a project is made riskier by uncertainty, political and economic risks (C-502). He distinguished between the expected IRR of a project and the threshold rate of return or hurdle rate. The latter rate, when retained between 12% and 15%, would be appropriate for a project that was without significant risk factors. Dr. Finizza further stated that a 25% discount rate would be appropriate for an oil project in Venezuela. He took the same position when he appeared before the Alaska State Legislative Committee in June 2006 (C-519). The Claimants' counsel did not ask Dr. Finizza a single question on the subject at the 2010 hearing.

862. Ms. Kah took a similar position before the same Legislative Committee, when explaining that IRR is a very important measure that the company takes very seriously, because it does not want to invest in a project that will have such a low return that will dilute the return on capital employed (C-575). When looking at the energy industry in the U.S., the discount rate would probably be higher than the 12% retained for the U.S. in general. Ms. Kah's opinion was thus that a return of higher than 12%, presumably at least 15%, would be necessary for an energy project in the U.S. For a project in a developing economy with a country risk rating like that of Venezuela, the required return would be much higher. This position confirms what both Mr. McKee and Dr. Finizza stated, meaning that a discount rate in excess of 20% would be appropriate, even before the adverse conditions facing Venezuela today.

863. The Claimants have also contended that the discount rate produced by IHS Global Insight in 2009 are suspect and should not be given any evidentiary value. The Respondent's experts support those conclusions on the basis of a database of transactions in the oil and gas industry maintained by IHS Herold, a sister company of IHS Global Insight. This analysis shows that discount rates are highly correlated with location, and that higher rates are found in less developed regions, resulting in a media discount rate of 28.5% for Latin America. Working on the same database, the Respondent's expert Mr. Leitzinger testified that there was only about 1 in 1'000 chance that the value of the Petrozuata and Hamaca Projects would have been as high as the level LECG proposed[640]. At the 2010 Hearing, the Claimants did not examine Mr. Leitzinger on the subject. In response to a question asked by the Tribunal, Mr. Leitzinger stated that LECG presented a table with a series of transactions for other properties, none of them having the same reserves, the same production life, the same type of crude oil, or the same location, as the Projects relevant in the instant case. "Averages of incomparable transactions don't make them comparable."[641] At least you can establish regular ratios between reserve volume, production and prices paid. That was what he had done in his regression model.

864. The Respondent notes that if this Tribunal would simply take the average of the discount rates proposed by ConocoPhillips and its experts for other oil projects and adjust them to the projects in Venezuela, it would be using a discount rate at or higher than the level proposed by Respondent's experts. To conclude, says the Respondent, this Tribunal should follow the example set by the two *Mobil* tribunals and *Tidewater*, whose analysis leads to the conclusion that the *ex ante* discount rate proposed by the Respondent's experts is eminently reasonable and the rate proposed by the Claimants would not even be reasonable for a similar project in the United States. The 18% discount rate cuts the Claimants' valuation of US$ 4.227 billion almost in half, *i.e.* US$ 2.509 billion for all three Projects, even when assuming that all other elements of their claim would be correct. Even this reduced amount is still grossly inflated. When compensation for concededly non-

[640] Expert Report of Jeffrey Leitzinger, 5 January 2015, para. 10.

[641] TR-E, 2010 Hearing, Day 11, p. 3104:15-22.

Discriminatory Actions is excluded, such amount is reduced to US$ 1.786 billion. When, in addition, the appropriate adjustments to the Claimants' production and cost assumptions are made, the pertinent amount becomes US$ 1.520 billion. After further using the proper price differentials, the valuation ends up with US$ 1.433 billion.

865. When considering a 26 June 2007 valuation disregarding the compensation provisions, the Parties' respective *ex ante* valuations differ greatly, the pertinent amount representing for the Claimants US$ 5.854 billion and for the Respondent US$ 1.677 billion. Since the Claimants give full effect to the full fiscal regime existing as of 26 June 2007, the difference between the Parties is attributable mainly to the Claimants' use of an indefensibly low discount rate of 8.9%. If a rate of 18% would be used, this would cut the Claimants' valuation by more than 50%.

866. In a scenario where a 31 December 2016 valuation would be retained, the Claimants' *ex post* discount rate analysis suffers from the same fundamental flaws as their *ex ante* discount rate analysis. The Respondent's updated discount rate of 27.7% reflects current conditions, giving full effect to the "fundamental issue of country risk, obvious to the least sophisticated businessman", and is very similar to the rate of approximately 26% applied by the *Tidewater* tribunal. If a reasonable discount rate is used, the Claimants' valuation, when applying the compensation provisions, but taking all other assumptions of the Claimants as correct, is reduced from US$ 8.518 to 7.037 billion. The impact of the discount rate is not nearly as significant as in the *ex ante* calculation because discounting applies only for future cash flows, and the future cash flows in the *ex post* valuation begin in 2017 only. When the Claimants' valuation is adjusted by (i) using a reasonable discount rate, (ii) excluding compensation for concededly non-Discriminatory Actions and the Special Contribution, (iii) making the appropriate corrections to the Claimants' production and cost assumptions and (iv) using proper price assumptions, the resulting *ex post* valuation would be US$ 1.313 billion.

867. Finally, when the compensation provisions would be disregarded, the Projects being set up as if they enjoyed fiscal and legal stabilization, the Respondents valuation of the Petrozuata and Hamaca Projects would be US$ 1.331 billion, whereas in the same setting, the Claimants demand for compensation is approximately US$ 14.119 billion. The Claimants use again a very low average of 11.54% for the three Projects. When the Claimants' valuation is subject to their 11.54% rate, their valuation would be US$ 14.119 billion, while the amount resulting from the input of the Respondent's discount rate would be US$ 11.404 billion.

3. *The Tribunal's Findings*

a. Basic elements

868. There is common ground between the Parties that the discount rate serves to convert expected future revenue (or cash flow) back to present value as of the date of valuation. It assists in determining the capital required at such date for the purpose of reaching the amount to which a creditor is entitled at a certain point in time in the future. In the instant case, such future amounts are the dividends to which the Claimants were entitled every year in each Project until the end of production (equivalent to the end of profit). Such rate is usually expressed in connection with the risk implied in reaching the future amount determined in the award. The analysis of the relevant risk therefore plays a large part in the determination of the discount rate.

869. However, risk must not be the only focus. The risk inherent in an investment translates economically into the profit the investor must obtain in order to proceed with the investment. Therefore, risk and profit are complementary concepts; profit is commensurate with risk. One is closely related to the other. In an optimal scenario, the minimum profit an investor expects to obtain must cover the economic dynamic inherent in the risks associated to the particular business. This also means that an investment having a high-risk component must yield a correspondingly high profit to become and to remain attractive for an investor evaluating whether or not it wants to transfer assets into the project.

870. While the respective amounts to be earned from the Projects as dividends in the future are based on the Projects economics, the same applies to the discount rate. The value of the Projects is the discounted present value of their future profits. The Claimants must be treated by reference to the situation they would have been in at the date of valuation. At that time, absent the expropriation, they would have lived with the expectation of obtaining dividends in the future as determined by the Tribunal. This expectation is the same they would have anticipated when operating the Projects in a but-for scenario at the time of valuation.

871. The amounts corresponding to the dividends to be earned in the future do not represent money placed in a bank account or in any other opportunity on the financial market. They are the profits resulting from the Projects, including all of their economic and financial components. Therefore, their calculation "upwards", towards the future, must be based on the same components. The profit they represent must be proportionally higher than the profit resulting from a savings account. If this was not so, there would be no investment in an industry, usually much more uncertain than placing money into a bank.

872. The discount rate reflects, to the extent applicable, the diversity of the sources of money and the related costs. The costs for money are determined by the suppliers of capital by reference

to the nature and the size of risks that have to be covered. This discount rate includes the cost required for obtaining such capital.

873. The cost of debt is to be taken as it stands in the project's books, like bank loans, whereby the applicable interest to be paid must be reduced by the tax return available in the particular case.

874. The cost of equity capital includes money provided as risk-free, on a low interest rate, and money provided as industry-risk for specific industries, at higher cost and interest rate that reflects the risk component of such industry in general. For an investor operating with his own money, it is important to also take account of risks involved in the investment project itself. Under an economic and financial perspective, such risks must be compensated by higher returns to the investor. Otherwise, the investor would not invest in the specific project and use the money on the market place investing in bonds of similar projects or funding similar projects like a bank or other lenders would do. The coverage of these risks adds to the cost for equity capital. The determination of this component is difficult, as it must be driven by the characteristics of the specific project.

875. The past profit resulting from the investment represents the increase of value resulting from the business involved. It is usually expressed through a rate, based in particular on points of reference that can be observed with some regularity. Viewed from such perspective, such rate corresponds to the update factor. When taken from the opposite perspective, which is more hypothetical, the expected profit or dividends to be captured in the future can be traced back to the initial value of the project at the point in time when the valuation is made. This is the project inherent discount factor, which serves the reverse objective of the update factor.

876. However, the economy of an investment does not consist only of a value representing the expected profit defined in relation to the inherent risks of the project. This is, in simple terms, the "upper part". The investment further comprises the costs the investor has to take into account for its own financing of the amounts to be invested into a particular project. This represents the "bottom part", corresponding to the cost – represented in terms of a rate of money required for the purpose of funding the investment. Both experts' teams use in this respect the same concepts, referring on the one hand, to a risk-free rate, and on the other hand, to an industry risk-rate, which is higher and related to the risks implied in a certain industry in general, independent from a particular project.

877. The discount rate must reflect the costs for the increase in capital that is required to reach the required amounts representing dividends in the future. First, account must be taken of the rate of profit on which the Projects are based, which is equal to the monetary portion of risks assumed by the investors expressed as a rate. The discount effect means that the dividends are to be brought down to present value in proportion to such rate.

878. Second, to determine the value required to bring a capital awarded to present value, it is also necessary to take account of the financing costs required to fund an industry producing further profit. Such value represents the financing costs of the investment, which can be determined by reference to the respective conditions applicable on the relevant market. In terms of rate, the risk-free rate and the industry rate are relevant here. Here again, the input of the discount rate has the effect that the dividends are brought to present value.

879. The Respondent's experts consider that the discount rate, and, at the time the investor enters into a project, its "hurdle rate" are minimum rates[642]. The Claimants' experts consider that the discount rate serves a different purpose than the hurdle rate[643]. The experts also debate the purpose of the internal rate of return (IRR), as a rate of profit calculated by the investor at the time of the investment. Irrespective of the differences between the experts, and even assuming that the rates determined by the investor or the shareholders at the time of considering the investment are minimum rates, nothing prevents the investor from earning more than the minimum. In such a case, as well as in the hypothesis where the discount rate is lower than the hurdle rate, it is not correct to speak of a windfall or, in case of arbitration, of excessive compensation[644]. Such recovery would only imply a risk of double payment when the specific discount rate was too low for the particular project and thus allow compensation that is not discounted fully to the date of present valuation. The reverse can also occur, when the investment project accounts for high discount rates that exceed by far their cost of financial capital. The proper method consists of avoiding overruns in both opposite directions.

880. This also means that for an on-going project, at a point in time after the hurdle rate was observed, the IRR is not, or must not be the same as the discount rate. The IRR is the profit the investor expects and that it earns for his shareholders. As the Parties have explained, various sources on the Tribunal's record mention that ConocoPhillips' IRR was 20%. It is usually above the discount rate that sets the limit of cost of capital and thus of the profitability of the investment vehicle. Documents from the early period when the Projects were initiated noted IRR's higher than discount rates regularly set at 10%[645]. The Respondent's experts cannot be right when they reject

[642] "The hurdle rate is the minimum amount of return that a person requires before they will make an investment in something." TR-E, 2017 March Hearing, Day 11, p. 3374:4-7 (Brailovsky).

[643] Cf. Abdala/Spiller, Consolidated Update Report, 17 November 2016, paras. 187/188.

[644] As is done by Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, para. 354; Additional Expert Report on Country Risk in Discount Rate, 19 May 2017, para. 3. The experts' position comes down to the assumption that the IRR and the discount rate are the same; TR-E, 2017 March Hearing, Day 14, p. 4083:17-4084:11 (Brailovsky).

[645] The IRR was 14.9% in the Memoria Descriptiva of October 1996 (C-92), 14.2% in the Hamaca Project II Business Plan of 30 April 1999 (C-461, p. 7, 25), 14.17% in the Corpoven presentation of 9 May 1996 (C-108) and 24% in the Feasibility Study prepared by Conoco and Maraven in August 1992 (C-73, p. 7, 45, 48, 95). A Board of Directors'

this difference, treating IRR as representing the discount rate in the absence of debt[646]. The Treaty concluded between Venezuela and China on 17 April 2010 shows the distinction when the discount rate applicable to the recovery of the investment was set at 10%, while the mixed company's operation was aimed at obtaining an IRR of 18%[647].

881. The hurdle rate is no longer relevant once the "hurdle" has been passed and the investment is made. When the investment vehicle is on-going and legally binding on the participants there is no longer such a hurdle. While the hurdle rate may be based on a methodology similar to that of discount rates, it may be higher than the average cost of capital if this is the option of the investor who wants to obtain a higher profit than the one that would correspond to the project's discount rate. In such a case, the hurdle rate and the IRR, expressed as the investor's hurdle, are different from and higher than the discount rate.

882. Thus, the Respondent's experts are basically correct when they state that a buyer's hurdle rate is the minimum acceptable rate of return it will receive as an investor[648] (except when he sets a higher hurdle because this is how he understands his own interests). At that point in time, the discount rate (corresponding to the hurdle rate) reflects the expected rate of profit.

883. The Parties' respective positions are not substantially different from what has been explained above in a language slightly different from the one used by the experts. The Parties' experts use their professional language and they rely on concepts that serve as vehicles for a great number of complex developments, some of which give the impression that they serve primarily the purpose of creating confusion instead of assisting the Tribunal with information leading to useful results. The study of this voluminous material shows that the disputed elements are related to a number of assumptions made by reference to sources that sometimes have nothing or little to do with the Projects at the core of the instant case. The Tribunal will in a first step take away a number of such assertions and options, without enumerating all of them, before focusing on the main elements to be considered for the purpose of reaching appropriate conclusions.

884. The Tribunal would have preferred to be faced with proposals presented clearly by the experts in such a way that the Tribunal could reach a decision without becoming involved too deeply into the field of economics which, after all, should be the experts' foremost area of expertise.

meeting of Petrozuata noted on 7 December 2000 an IRR at 34% and a net present value of US$ 537 million at 7.7% (C-326).

646 Consolidated Expert Report on Valuation, 17 November 2016, paras. 384.

647 Article 6 (C-585). An expert explained: "You discount the cash flow at a particular Discount Rate, but you have an IRR, you always want to have an IRR which is above the Discount Rate, so you have a cushion. You have value in the Project." TR-E, 2017 March Hearing, Day 13, p. 3964:1-5 (Spiller).

648 Consolidated Expert Report on Valuation, 17 November 2016, para. 388/389.

However, such a guided choice is impossible when the experts' proposed discount rates are, respectively, 11.6% and 27.7%, a difference of more than 16%. As another Tribunal noted in a similar situation where the opposing rates were 8.5% and 26%: "There was an air of unreality with respect to both Parties' arguments with respect to the DCF method"[649]. The Tribunal tried by letters dated 4 and 12 April 2017 to direct the experts to confer with the aim of narrowing the gaps between their respective positions related to discount rates, in general, and country risk, in particular. By letter dated 25 April 2017, the Claimants informed the Tribunal that the experts were unable to succeed with such task. There were manifestly grounds to bring the respective opposing positions at least a little bit closer, based in particular on the results of the two hearings held in February and March 2017, where a number of errors in the experts' assumptions were highlighted. The Tribunal made an effort that seemed to be the minimum of a reasonable approach. It has been faced by a surprising and indefensible refusal, originating – on one or on both sides – either from the experts themselves or from one or both Parties, through the instructions they had given. The Tribunal's approach may imply certain approximations the Parties may have not wanted to undertake by offering their comprehensive assistance. The members of the Tribunal, being exposed to suggestions so extreme that they manifestly cannot be retained, will have to make certain adjustments that some experts may consider to be a deviation from economic discipline[650].

885. The matter to be addressed as a priority is the full hybrid complex of a variety of intellectual and mathematical distortions on the subject of country risk. This needs to be looked at first, whereas the consideration of risk-free and general industry-risk based financial resources is nearly agreed between the experts who nevertheless thought it was preferable to demonstrate once more their ability to entertain controversial esoteric debates rather than providing assistance to the Tribunal which is responsible for resolving the case.

b. U.S. market assumptions

886. In many respects, the Claimants' experts refer to U.S. market characteristics as a basis and then simply add adjustments to what they assume reflect differences of the comparable concepts pertinent for the situation in Venezuela. In essence, the Claimants' experts purported after 2008 to proceed with a "but-for valuation of Claimants' interests in the Projects" on the valuation date[651]. But, in fact, they addressed the matter through data available on the U.S. market that is then simply adjusted to Venezuelan market components and without or with very little further scrutiny of the

[649] *Himpurna California Energy Ltd. (Bermuda) v. PT (Persero) Perusahaan Listruik Negara (Indonesia)*, Final Award dated 4 May 1999, para. 355 (R-252).

[650] This is said under the assumption that such a discipline exists. Serious doubts are permitted given the extreme discrepancies of the results from highly educated professionals who should have a scientific background allowing conclusions coming closer to one another in their elaboration and in their results.

[651] Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, para. 54.

economics of the Projects. This approach is reflected already at the first level of considering country risk, which is presented as a premium accounting for the increased uncertainty or volatility of the Projects' cash flows resulting from the Projects being located in Venezuela rather than a more developed economy, such as the United States[652].

887. In the May 2014 report of the Claimants' experts, the Venezuela component of country risk disappeared:

> To determine the extent of country risk applicable to the Projects, we evaluate the (incremental) risk of the Projects' cash flows compared to a similar project located in the U.S. To do so, we first identify the potential sources of country risk, and then we implement a methodology that reflects the market's perception of the Projects' exposure to overall country risk.[653]

888. When they discuss the comparison with the Alaska pipeline, the Claimants accept that the information conveyed stands at least for the fact that a project in Venezuela faces higher country risk than would a similar project in the U.S.[654]

889. One of the factors used by the Claimants' experts as support for low discount rates is the Weighted Average Cost of Capital (WACC) model that serves to pull most relevant rates together and offers a final rate to be used for further valuation. The experts were not always explicit in showing that this model works with U.S. market assumptions, and retains Venezuela risk factors as they are looked at from a U.S. perspective, without accepting any link or relationship to the local country market. Thus, when calculating the appropriate WACC for the Projects, they "first estimate the industry risk through the calculation of a WACC for a U.S.-based company in the same industry segment as the Projects (oil and gas exploration and production, or E&P)". To take account of the Venezuelan component of the Projects, they "then adjust it to reflect differences in the relative risks of investing in Venezuela versus the U.S."[655]. For this purpose, they did not use Venezuelan market data, because these data, as they say, were not available and in any event not reliable. The Respondent's experts go a step further in noting that this is simply playing with bond ratings for the purpose of reaching what appears to have been their target for the discount rate[656].

890. When they use the Capital Asset Pricing Model (CAPM) to estimate cost of equity (part of the WACC), the Claimants' experts use data from U.S. capital markets, while noting that a cost of

[652] Claimants' Final Submission on Quantum, para. 412.

[653] Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, para. 56.

[654] Claimants' Final Submission on Quantum, para. 454.

[655] Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, para. 102.

[656] Consolidated Expert Report on Valuation, 17 November 2016, paras. 479/480.

equity estimated from U.S. data fails to account for the fact that the activities take place outside of the U.S. To address this, say the experts, they included a country risk premium to account for the different political and macroeconomic risks in Venezuela as compared to the U.S.[657] However, when determining such country risk, the experts choose the sovereign debt approach that was based on the Emerging Markets Bond Index (EMBI) developed by JP Morgan, a U.S. bank[658] in 1999 – nearly 10 years before their report– and that did not estimate country risk directly but in comparison with the total market capitalization of all instruments included in the index. The index is defined as a market debt benchmark, which seems to have limited relevance for a cost of equity determination. The global factor determined by the index was 5.6% for Venezuela. However, the experts choose a 5-year horizon resulting at the end of July 2008 in a country risk premium of 4.37%; the experts did not refer to any source for such an assumption[659]. With this premium, the experts made an adjustment based on the rating of Petrozuata's bonds in 1998 and further determined Petrozuata's debt to country risk in comparison to U.S. exploration and production (E&P) companies, using an index of U.S. industrial bonds whose ratings were two levels above Venezuelan sovereign debt. Whereas the experts purportedly rely on Venezuelan bond ratings, the reference from where the calculation starts is again the U.S. market. Finally, while accepting that equity is more exposed to country risk than debt, they assumed that Petrozuata had an optimal capital structure that is the same as the average of the U.S. E&P firms and thus adopted a 26.5% debt portion – all this without any verification by reference to companies operating in the Venezuelan oil industry or, what would be the basic requirement, to the company under examination, *i.e.* Petrozuata[660]. The experts' conclusion illustrates their approach:

> A willing buyer of the Projects would have an industry-representative capital structure. Reliable information for such a generic buyer is not available from the sample of Venezuelan E&P companies with the same risk characteristics as our target Projects. Accordingly, we used as a proxy the average capital structure observed in the U.S. sample of E&P companies, that is, a debt to equity ratio of 27%. Our use of U.S. data is supported by the fact that the

---

[657] Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, Appendix E, para. 5. The experts added that U.S. data are more reliable "than analogous data from Venezuelan capital markets, to the extent that such Venezuelan data exist". In other words, the experts concluded that Venezuelan data were not reliable although they had not verified whether such data exist. In the report covering this Annex, the experts were more affirmative: "We use the optimal debt-to-equity ratio from non-integrated exploration and production oil and gas firms in the U.S., as data from the Venezuelan market is limited and unreliable." (para. 113). Thus, the experts concluded that Venezuelan data were unreliable before they undertook the effort to search whether such data exist. They had 8 years to remedy this defect. In all later reports, the caution about maybe available data from Venezuela was no longer mentioned.

[658] LECG-171, referred to in Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, Appendix E, para. 17, footnote 21.

[659] Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, Appendix E, para. 18.

[660] Cf. *ibidem*, Appendix E, paras. 16-36. As mentioned below, the debt portion was finally set at 26%.

E&P industry is basically an international industry, and that many U.S. companies have investments in other countries.[661]

c. Discount rates on foreign markets

891. Both expert teams made extensive studies of risk ratings derived from a great number of markets internationally or even world-wide. While such comparisons can be instructive in various regards, they suffer from the fundamental handicap of not being driven either to the market concerned in the instant case – the Venezuelan oil market – or, more specifically to the Projects that are the object of the valuation and thus at the core of the determination of the discount rate, and in particular, its inherent risk component.

892. The Respondent's experts rely in very large part on five approaches to determine discount rates, *i.e.* the Country Risk Rating Model published by International Investor, SPEE, their own Stock Market Data, and the Texas Comptroller of Public Accounts. All of these sources are grounded internationally, with the exception of the last one, which contains appraisals of more than 6,000 oil and gas properties in the State of Texas. A fifth source should be mentioned separately, because it provides information on upstream oil projects in Venezuela, assembled by the IHS Global Insight[662]. When all these sources are taken together, the range of discount rates under an *ex post* valuation is between 21.8% and 29.5%[663]. The experts then create another group, comprised of different methods represented by four different categories of indicators, *i.e.* (i) ICAPM, a method using the relative standard deviation of the stock markets of Venezuela and an advanced economy; (ii) ICAPM, other methods; (iii) methods combining non-CAPM expected rate of profit with the country risk rating model; and (iv) direct non-CAPM estimates. The Respondent's experts conclude from this comparison that the mean of cost of capital of the four groups is 27.7% for October 2016, which is the discount rate they apply to obtain the Net Present Value (NPV) of the Projects as of the *ex post* valuation date[664]. The experts do not explain the respective weight given to each one of these groups that show very different compositions. It appears that, in very large part, these groups do not reflect assessments based on the Venezuelan market, and that, when they do, the reference is not different than when considering stock markets of Venezuela. No connection is made to the economics of any of the Projects under valuation. This is striking. The experts state as one of their fundamental points that the discount rate reflects the expected rate of profit, at least as a minimum, which rate is reflected by the cost of capital as it is "looked at from the perspective of

[661] *Ibidem*, Appendix E, para. 50.

[662] The data relate to 2009 only and were given for oil projects in Venezuela generally; cf. Consolidated Update Report, 17 November 2016, paras. 378(b), 520/521; Additional Expert Report on Country Risk in Discount Rate, 19 May 2017, para. 11.

[663] Consolidated Expert Report on Valuation, 17 November 2016, paras. 378, See further paras. 478-552.

[664] *Ibidem*, paras. 380/381, 538, 540, Table 34, para. 578.

the project"[665]. However, none of the approaches and methods they use as guidelines implies any perspective focusing on the Projects.

893. The Tribunal also notes that the Respondent's experts express a number of limitations in respect of a methodology based on the CAPM approach that to a certain extent, must also extend to ICAPM, its international companion. This method, they say, explains the pricing mechanism in financial markets under the assumption of perfect competition. They note that the theory has a poor track record for predicting actual discount rates for financial assets and that it also has serious limitations when the asset to be valued is a stand-alone physical oil project, which is not liquid, for which there are few buyers whose portfolios are not fully diversified. They conclude that the theory simply cannot be applied without important modifications when perfect competition does not prevail. Therefore, in this case, the CAPM can only provide a floor to the discount rate[666]. They further add that the CAPM was supplemented by adding a country risk premium, generating the ICAPM, the international version of the model. The experts note, however, that beyond the ICAPM other approaches must be used to determine discount rates "that are free from the strictures of that theory's assumptions"[667]. Nevertheless, as explained above, the experts use the ICAPM (in undefined proportion) as one of their basis for suggesting their discount rate of 27.7%, further noting that when relying exclusively on non-ICAPM methods, this rate would go down to 25.1%[668]. In any event, the reliance on numerous ICAPM based sources or other sources using comparable data under another methodology is largely misguided when not focusing on the Projects at hand and their economic environment. Additionally, as these Projects are on-going in a but-for scenario, there is no room for any "buyer"-oriented perspective that might be influenced by comparison with other or maybe similar markets.

894. The Respondent's experts also suggest that most of the CAPM estimates are made from U.S. stock market data. This market is highly liquid, while a physical project, usually, is not, as it has to face a limited market, where transactions take a long time to be concluded. To take account of this constraint applicable to the Projects, the Respondent's experts proceed with a liquidity adjustment of 4% to the first two groups of methods based on the ICAPM, with the effect of an average increase of the discount rate, based on the four groups, of 2%. This results, as they say, in a "discount rate (cost of capital) after liquidity adjustment" of 27.7%[669]. However, they also noted, at an earlier stage, that the same percentage represents the mean of the cost of capital of the four

[665] *Ibidem*, para. 390.

[666] *Ibidem*, paras. 394, 404. The experts emphasize the word "floor". See further paras. 492-497.

[667] *Ibidem*, para. 400.

[668] *Ibidem*, para. 383. The experts retained for their valuation ICAPM-based methods for more than 50%; cf. the same Report, page 275, Table 34.

[669] *Ibidem*, paras. 538, 540, Table 34.

groups mentioned above, not considering an adjustment for liquidity[670]. This is confusing. The Tribunal understands that this last figure must be lower than 27.7%, but that for the experts the final percentage is 27.7%, as further confirmed by the Respondent's briefs.

895. The Tribunal notes first that the Respondent's experts' argument is circular. The lack of liquidity is evaluated by comparison with the most liquid U.S. stock market, while it is asserted – correctly – that the discount rate should be based on a Project-oriented valuation and not by reference to U.S. data for stock marketed companies that have very little, or indeed nothing to add to such examination. Since the Projects were set up, there was never a liquid market for revenues in the form of dividends from oil production and upgrading. There was no market either for the shares, all the more so since the matter was governed by the Association Agreements. Therefore, the factor of illiquidity, if it was relevant, was at all times included as a commercially relevant component of the Projects and therefore also included in the valuation made by the investors, be it as discount rate or the hurdle rate. Thus, as the Claimants' experts have noted, there would be an obvious double counting if any lack of marketability was added to country risk[671]. It may also be observed that country risk cannot be measured, in the instant case, by reference to markets. The discount rate serves to determine the present value of future dividends. These are all characteristics exclusively related to the Projects at issue in the instant case.

896. The Claimants' experts, on the other hand, considered the comparable transactions and market multiples approaches as a means of testing the results of their DCF analysis. They examined over 1,600 crude oil exploration and production transactions that occurred between 2001 and the first half of 2008 for which reliable data was available. This approach is useful when there are numerous, recent, arm's length transactions of assets that are similar or comparable to the asset being valued. The general ranges of value, taken as a whole, provide an opportunity to confirm the conservative nature of the results of their DCF calculations. The experts did not identify any particular transaction that could be considered directly comparable in all material respects to the Petrozuata and Hamaca Projects (including in terms of size, location, and type of crude oil), but they say that they were able to evaluate the per-barrel transaction price of a sizeable number of recent transactions relating to heavy crude oil interests. Similarly, they examined transactions relating to shallow water projects and assets in an effort to find comparables for the Corocoro Project. They did not identify any particular transaction that could be considered directly comparable in all material respects to Corocoro, but the transactions, in the aggregate, offer a useful and independent basis for confirming the conservative nature of their DCF analysis.

[670] *Ibidem*, para. 381.

[671] Abdala/Spiller, Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017, para. 33.

897. The experts also sought to corroborate the results of their DCF analysis by examining the valuation multiples that arise from publicly-traded exploration and production companies extracting heavy crude oils in Canada and elsewhere. Although they did not identify a particular company directly comparable to the Petrozuata or Hamaca Projects, they found that this exercise provides a useful and independent means for confirming the conservative nature of their DCF results[672].

898. The "market multiples" approach (sometimes called the comparable company approach) is similar from an economic viewpoint to the comparable transactions approach. The approach is applied by (1) identifying publicly-traded firms that are sufficiently similar to the target enterprise, (2) computing a ratio that expresses the firm's value to some relevant variable (*e.g.* earnings, production, proved reserves), and (3) applying the observed multiple to the variable (in this case reserves) to determine its value. If the stock market is reasonably efficient then the prices of equity shares incorporate the market's knowledge and expectations of the future business prospects for firms and thus provide a reasonable estimate of fair market value. If the selected public firms are sufficiently similar to the target enterprise, it is possible to draw an inference as to the probable value of the target based on an industry appropriate multiple. In this case, the relevant indicator of value, which they have identified, is the ratio of the enterprise value to the number per barrel of oil equivalent (BOE) of proved reserves.

899. The Claimants' experts conclude that their analysis confirms the conservative nature of the value that they calculated for the Petrozuata and Hamaca Projects using the DCF approach.

900. The Tribunal finds that without denying the interest of multiple comparisons, with either projects or transactions multiples, such methods do not permit to arrive at conclusions concrete enough to be applicable to the Projects in the instant case. The experts accept that they did not identify any particular transaction that could be considered directly comparable in all material respects to the Projects. Therefore, if no reasonable comparison can be derived from the multiple comparisons and analysis of a large number of oil production sites worldwide, what is the purpose of such an exercise if it does not lead to concrete results in respect of the Projects at issue in the instant case? Such comparisons may show differences between extremes where discount rates may be discovered. Yet, this does not lead to any concrete result.

901. Similarly, it is hypothetical or rather speculative to conclude from a comparison to average cost of debt of supposedly comparable E&P companies located in China, Russia, Kazakhstan, Colombia and Brazil, as compiled by the U.S. company Bloomberg, that the Projects' cost of debt

[672] Cf. Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, paras. 57/58; Appendix G completed by Appendix D to the Second Valuation Report of ConocoPhillips' Investments in Venezuela, 2 November 2009, and the Rebuttal Report to Respondent's Experts' Second Reports, 15 April 2010.

was 7.31% as of June, and 6.06% as of December 2016[673], when data must have been available from the Projects' accounts at least for the historical period.

d. General country risk assumptions

902. The Tribunal finds that while it may be true that the general economic situation of Venezuela may have a negative effect on the Projects' economics, for instance by increasing the risk of increased taxation, political instability, turbulences on the labor market or lack of technical supply, there is no point in drawing conclusions from the risks implied in Venezuela's sovereign debt, close to collapsing, in respect of the financial standing of the Projects that enjoy considerable autonomy compared to the country's economy taken as a whole.

903. On the other hand, governmental policy directions affecting Venezuela's oil industry in general (whether they are called country risk or not), like royalties and taxes, currency exchange limitations, OPEC production restrictions, and many other regulatory measures related to the conduct of oil projects must be taken into consideration. The Petrozuata Offering Circular of 1997 (C-75) contains an extensive enumeration of such risks that do not need to be listed here again. However, in this respect as well, the impact of such governmental measures cannot be converted into the risk component of a specific project without further considering many other factors and mainly those related to the particular project at stake. The financial statements also contain comprehensive lists of risks affecting the Projects[674].

904. The same concern applies to comparisons made by the Claimants' experts with many other loans that are rated by professional agencies for the purpose of impacting the financial market. The debt quality of the respective borrowers may allow indirect conclusions as to the inherent risks of the relevant business, but this does not allow an immediate transfer of such risks for the purpose of identifying the risk components of the Projects at issue without further verification. Therefore, the Tribunal finds the Claimants' experts' assumptions in this respect, without denying some intrinsic interest, to be close to simple speculations not connected to the characteristics of the Projects. The experts must have been aware of the weakness of such position when they stated: "In any case you need to analyze the project-specific risk and not the country risk in general."[675] This is also the Claimants' position: "The relevant inquiry, then, is what the country risk *would have been* for these Projects (considering their specific characteristics, including their Treaty and contractual protections) absent unlawful conduct by Venezuela."[676]

[673] Abdala/Spiller, Consolidated Update Report, 17 November 2016, para. 175.

[674] See, for instance, the Report for Petrozuata for the years 2006/2007, p. 18-21 (CLEX-093).

[675] TR-E, 2010 Hearing, Day 10, 2689:17-2690:8 (Spiller). And again: "… the country risk ought to be Project-specific", TR-E, 2017 March Hearing, Day 11, p. 3335:7/8 (Spiller).

[676] Claimants' Final Submission on Quantum, para. 412.

905. In any event, even if bond ratings like those of the Venezuelan sovereign debt are taken as reference, they cannot represent more than a bottom line on which the specifics of the Projects have to be build and translated into costs leading to appropriate rates. The bond rating as such is not pertinent for a project-driven valuation. The risk of a physical project attracting foreign investments is much higher than the risk of a bond. If this was not the case, the investor would simply buy bonds, which include country risk, but not other risks inherent in the particular investment[677].

e. The risk of expropriation and taxation

906. The Tribunal accepts that the discount rate should not serve as a premium for unlawful acts committed by the host State and detrimental to the investment. Therefore, it is not appropriate to include the risk of unlawful expropriation or other unlawful state measures into the determination of the risk/profit equation of the Project, and henceforth, into the discount rate.

907. The Claimants, however, go too far when they submit that no expropriation risk should be considered. This is not correct in view of the protection provided by the BIT against illegal acts committed by the host State, which delineate, conversely, the scope left for legal intrusions from the State affecting the economics of an investment. Thus, expropriation is permitted within the limits determined by Article 6 of the BIT. This includes the right of the investor to be awarded "just compensation". As the Claimants have submitted this standard is not as exact as full reparation, with the effect that if just compensation is actually paid, the investor must assume the risk of being deprived of compensation allowing full recovery for the loss suffered. To this extent, the Treaty protection has its limits, which translate into a risk inherent to the investment.

908. As to the principle, the Tribunal agrees with the Claimants that unlawful conduct should not be converted into a benefit for the wrongdoer.

909. The same principle applies in respect of the consequences of discriminatory actions. To the extent that the compensation provisions of the Petrozuata and Hamaca Association Agreements provide for a limited indemnity for the Class B Shareholders, the difference, representing uncovered loss, must count as a risk of the Projects that translates into the discount rate.

910. Therefore, one of the basic assumptions of the Claimants' experts, *i.e.* that "in these proceedings the discount rate must be free of expropriation risk and of the risk of wrongful taxation"[678] must be tampered. The Projects were not free of the risk of expropriation, provided it was lawful within the framework of Article 6 of the BIT. They were also exposed to the risk of increased

[677] Brailovsky/Flores, Consolidated Expert Report on Valuation, 17 November 2016, para. 398(c).

[678] Rebuttal Report to Respondent's Experts' Second Reports, 15 April 2010, para. 9.

taxation, however within the limits determined by the compensation provisions. Therefore, the Claimants' experts' criticism of the Respondent's experts on these points, expropriation and taxation, is not persuasive[679].

911. At a later stage, in 2014, the Claimants' experts moved from their initial position and focused more on the Projects' production and cost parameters. They noted: "A major difference in the inputs selected by B&F [Brailovsky&Flores] relates to the Projects' expected operational performance in the absence of expropriation."[680] Additionally, when enumerating the specific features of the Projects that support the experts' low country risk premium, they state:

> The Projects' private shareholders not only enjoyed specific protections against expropriation in the BIT but also had specific protections against adverse actions by Venezuela in the Petrozuata and Hamaca Association Agreements, which further limited their exposure to political and regulatory risk.[681]

Additionally, the Claimants' experts note that the Projects contain their own risk management when considering the protection available through bilateral investment treaties and the compensation provisions of the Association Agreements[682]. Nonetheless, when the experts analyze the Petrozuata Agreement they take as a basis the years 2002-2004, arguing that the Petrozuata's credit ratings were affected thereafter by reports on possible expropriations[683].

912. The Tribunal also recalls that the Claimants' experts were instructed not to examine the application of the Windfall Profit Tax (WPT). Consequently, they did not consider either the potential of an impact of this taxation on the risks inherent in the Projects.

---

[679] *Ibidem*, para. 10: "The differences between the country risk premium we use and the country risk premium used by B&W [Brailovsky&Wells], in turn, is due to B&W's failure to isolate the expropriation and wrongful taxation risk elements embedded in this premium, risks that the Projects would not have faced in the but-for world." In their earlier reports, the Claimants' experts assumed an income tax of 34% for Petrozuata and Hamaca. In fact, in 2007, the income tax in the hydrocarbons industry rose to 50%, and the Claimants had concluded that such increase should not trigger the applicability of the compensation provisions in the instant case. The experts changed their tax scenario in their Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, paras. 2, 4, and in their Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014, footnote 9, paras. 19, 249.

[680] Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014, para. 6.

[681] *Ibidem*, para. 86(d).

[682] *Ibidem*, para. 192.

[683] *Ibidem*, para. 118; Consolidated Update Report, 17 November 2016, para. 89.

f. The risk inherent in the credit rating of debt

913. The Claimants rely heavily on the risk component included in the rating for the Petrozuata bonds. As noted above, the experts restricted their analysis of but-for cost of debt to the years 2002-2004, considering that the later reports on expropriation risks would impact this valuation. The experts' years of reference are thus more than 10 years before the effective valuation date and based on a hypothesis that is in contradiction with their acceptance that the Projects were protected by the BIT. At the time they wrote the May 2014 Report and the 2016 Consolidated Report, the experts knew that the BIT was applicable since 2005/2006[684]. Nevertheless, the experts are of the view that the Projects' credit risk profile would have maintained the BB rating it had in the 2002-2004 period through to December 2016[685]. No evidence is provided for such an assertion, which simply conveys the experts' personal opinion.

914. This opinion is not without contradiction. In support of the downward trend of the lenders risks since the early days of the investment, the Claimants' experts argue that "many of the material risks initially associated with the Projects were no longer present as of 2016 (such as, for example, construction and development risks), and given the reduction in risk free rates, the interest rates required by bond holders as of 2016 would have been lower than those offered by lenders in 1997"[686]. Such reduction does not affect, say the experts, the country risk component of cost of equity: "… because of Venezuela's increased fiscal deficit and the deterioration in its overall macroeconomic situation, the Projects could be adversely affected due to other political risk factors, such as an increase in the risk of supply chain disruptions"[687]. The Tribunal observes, firstly, that these arguments are incomplete in light of the available information of risks characteristic of the oil market in Venezuela and in respect of the Projects in particular, as they are enumerated extensively in the Petrozuata Offering Circular and in other official reports. Secondly, the experts' estimation of risks in Venezuela is inconsistent with the use of an initial credit rating in 2004, without further verification in respect of the following years, and this in reliance on a proxy of the U.S. corporate market[688].

[684] The ownership in the Projects was transferred to CPZ on 27 July 2005, to CGP on 11 August 2005, and to CPH on 22 September 2006, respectively; cf. 2013 Decision on Jurisdiction and the Merits, para. 276.

[685] Consolidated Update Report, 17 November 2016, paras., 91, 173; see also Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, para. 119. Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014, para. 89, further referring to the Merrill Lynch Emerging Markets Corporate Plus Index, once again not sourced on the Venezuelan oil market.

[686] Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017, para. 12.

[687] *Ibidem*, para. 32.

[688] Cf. also Brailovsky/Flores, Additional Expert Report on Country Risk in Discount Rate, 19 May 2017, para. 19.

915. The Tribunal does not share the Claimants' experts' view that the bond ratings can be seen as equal to the Projects' risk ratings pertinent for the investors[689]. As the Respondent's experts say, "the risks of investment in equity, particularly in the case of non-financial assets, must be higher than those for an investment in bonds"[690]. The risk of lenders is certainly below the risk assumed by the investors who are directly involved in the operation of the Projects and must be awarded revenue higher than the benefit obtained by the lenders. Therefore, the country risk assessment made by the Claimants' experts at the level between 4 and 5% has no real relationship with the economics of the Projects as defined in the official documents supporting the Petrozuata bonds. The result of such a comparison is rather that the risk inherent in the Projects as perceived by the Claimants must have been significantly above the risk converted into a bond rate of 8%. The Claimants' experts seem to take advantage of this bond rating as it yields lower risks than the Venezuelan sovereign bond, at least for a certain period of time. However, such assumption is speculative, because oil-producing companies are exposed to risks that can easily develop at levels above the risks retained for sovereign bonds, as well as for average companies in the same country. The key point in this respect is that the risk rate inherent in a bond rate of 8% is certainly of interest, in light of the Circular's most extensive enumeration of all risks the lenders are facing, but it is equally certain that an investor's risk burden must be heavier because it applies directly and without the safeguards available to the lenders through the protections available on the financial market, in particular the guarantees provided by the bond sponsors. The Claimants' experts did not ignore that this makes a difference and invalidates comparisons relevant to an assessment of the credit quality of unsecured debt[691]. At no point did they mention that in the circumstances of the instant case, the risk factor is not impacting the value of the bonds but the prospect of being paid the dividends arising from the Projects' performance. The discount rate made on this basis would result in different and higher proportions. Yet, this is not the approach that they choose:

> "We considered three alternative approaches to calculate the project-specific exposures to country risk as suggested by Prof. Damodaran. … none of these approaches produces a meaningful result for the Projects, so we proceeded to our own implementation based on the observed Projects' debt performance."[692]

916. It seems to be simple to understand that a debt performance guaranteed by the sponsors and the shareholders of the parent companies has a lower risk component than the payment of dividends that comes in the stream of revenue after the payment of interest to the lenders.

---

[689] Or, as the Claimants say in their 2017 Post-Hearing Brief: "The yield on the Petrozuata bonds reflected the market's perception of the risk of an investment in the Petrozuata Project itself." (para. 214).

[690] Consolidated Expert Report on Valuation, 17 November 2016, para. 436.

[691] Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, footnote 120.

[692] Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017, footnote 66. The Tribunal observes that this footnote is attached to paragraph 47, opened by this statement: "In assessing the level of country risk relevant to the Projects, we follow the approach put forward by Prof. Damodaran (2003), termed the "Lambda Approach," which posits that the measurement of country risk must be asset-specific."

917. As neither the sovereign bond nor the Petrozuata bond are useful indicators for the Projects' cost exposure and discount rate, the debate between the experts on whether one bond is rated above the other, or the reverse, is moot.

918. The Claimants' experts further submit that for the companies involved in the Projects, the effective cost of debt is not the interest paid to the lenders, but the net rate obtained when the income tax is deducted. Considering the effect of a reduction on an income tax of 50%, this cuts the risk component approximately by half[693]. Here again, such calculation does not include consideration of the higher risk component for investors, compared to lenders, and the methodology is further biased by a debt to equity ratio of 26% that is based on averages retrieved from E&P companies indexes unrelated to Venezuela[694].

g. Consideration of a willing buyer

919. The Claimants' experts, when introducing the DCF methodology as the most reliable tool to determine the Claimants' losses, use the comparison of a "willing buyer" who would consider purchasing the Project at the time of valuation[695]. They also refer to the World Bank Guidelines[696]. However, these Guidelines refer to the market value used for the calculation of just compensation at the time of expropriation. At the point of valuation of the three Projects in the instant case – whether it is the end of 2016 or 2018 – there is no willing buyer to consider. Such buyer may have its own views about weighing risks and profits inherent in the Projects compared to his own interests and the offers of other competing buyers. Each of those potential buyers will adopt his own debt-to-equity ratio. In this case, what matters is the valuation of future revenues attributable to the Claimants under the conditions of their experience in a but-for scenario. These conditions are predetermined by the Projects' inherent parameters. They cannot be moved for the purpose of complying with an incoming buyer's operational and financing choices.

920. More particularly, when looking at the WACC at the basis of the Claimants' experts' conclusions, reference is made to "the weighted average of the cost of debt and the cost of equity, with the weightings (which sum to 100%) determined by the optimal capital structure in the industry"[697]. However, this definition is given in the abstract, and its elements are determined through parameters used by the "industry" and its pertinent market field. Such definition might be useful for an evaluation by a prospective buyer and allow him to compare with other projects interesting in view

---

[693] Cf. Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, Appendix E, paras. 37-47.

[694] *Ibidem*, Appendix E, paras. 35, 50.

[695] *Ibidem*, Appendix E, para. 62.

[696] LECG-037.

[697] Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, para. 69.

of an investment. For the purposes of valuation of an on-going project and its forthcoming cash-flows, these factors must be determined by reference to the projects under consideration.

h. Cost of debt

921. The Claimants' experts submit that their WACC was based on cost of equity. However, they accept a more than 25% proportion of cost of debt as it is retained in U.S. business-oriented market manuals, with the effect of reducing significantly country risk for Venezuela down to about 4%. The experts' debt-to-equity ratio underwent changes. While the equity portion was initially set at 27%[698], for August 2014, the debt to equity ratio was given as 29% to 71%[699]. This was shortly after the May 2014 report, where the debt-to-equity ratio was 40.7% as of March of the same year, and by reference to U.S. E&P industry[700]. In March 2016, the debt to equity ratio was said to have changed from 41% to 30%, without explanation[701]. The Consolidated Report noted that the "debt-to-firm" ratio became 25.6% in December 2016[702]. Finally, it was set at 26% for the same date[703]. In light of the confusing curb of the relevant ratio provided by the experts over the years, and the U.S. sourced information used as evidentiary support, the Tribunal notes that no effort has been provided to extract the pertinent percentages, if any, from the Projects' economic and financial structure itself[704]. The matter is relevant here because of the implications on the country risk factor. This factor is considerably higher in relation to cost of equity than in respect of cost of debt[705]. Therefore, when increasing the cost of debt portion, the country risk component decreases and so does the discount rate.

698 *Ibidem*, Appendix E, para. 50.

699 Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014, para. 163.

700 *Ibidem*, paras. 114/115. The same report presents the debt to equity ratio for the Projects' "Base Case" as 29% to 71% (para. 129).

701 March 2016 Update, 18 March 2016, para. 26.

702 Cf. Consolidated Update Report, 17 November 2016, footnote 95, where it is explained that the ratio provided results as an average from the capital structure of E&P Projects, referenced back to the sample of companies in Bloombergs' SIC Code 1311. No analysis is provided on the reasons why and, if so, to what extent these sources are relevant for the Projects at issue in the instant case. In Table 3, para. 95, the percentage noted is 25.9%.

703 Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017, para. 63(c).

704 In its closing statement at the 2017 September Hearing, Counsel for the Claimants simply stated that the cost of equity was more than two times the cost of debt, and that a company was funded by debt and equity; TR-E, Day 18, p. 5167:19-5168:3 (Friedman).

705 "If things go wrong, the debtholder gets paid first. The equity holder, if there is any money left, gets paid last. So, that's why the Rate of Return that the investor would require the Hurdle Rate for, the investor would be substantially higher"; TR-E, 2017 March Hearing, Day 14, p. 4167:12-17 (Flores). "In general, equity is riskier than debt."; *ibidem*, p. 4236:21 (Spiller).

922. The Respondent's experts' position is ambiguous. Without close examination, the experts simply mentioned "that the Projects have some debt"[706], whereas they had noted in August 2014 that there remained no debt-related expenses after 15 May 2014[707]. Nonetheless, the experts included consideration for cost of debt in their discount rate valuation[708] and they retained a debt to asset ratio of 23.7%, referring to the Standard Industrial Classification Code prepared by the U.S. administration (SIC 2911, BF-62)[709]. Assuming no debt any longer in mid 2014 seems incompatible with the hypothesis of a debt portion of the Projects of more than 20%.

923. The Claimants' experts are more explicit. They included cost of debt "by comparing the Projects' cost of debt with the cost of debt of comparable U.S. E&P producers" and this "absent the threat of expropriation"[710]. The experts explained that they took that measure – the debt country risk – and amplified it by the relative risk of E&P companies' equity to their debt, to reflect the increased riskiness of equity investments in the industry, as compared to investments in debt[711]. Such analysis completely moves away from considering the Projects' own risk components, even to the extent it would be related to its cost of debt. Indeed, when adjusting the country risk based on debt yields, the experts say that they "increase the debt country risk premium by capturing the US industry risk differential as applicable to general equity and debt investors"[712]. In addition, cost of debt includes the risk component as perceived by the bond holders, with the effect that there is no further risk determination based on the Projects[713]. The experts were aware of the Projects' financing at least to the effect that the Hamaca and Corocoro Projects had not issued bonds and that the Petrozuata bonds had been paid back long before the valuation date in December 2016. This would have provided good reasons to examine more closely whether the debt ratio of 26% was reasonable and a good cause for the downgrading of the country risk by about one third compared to the country risk adopted in relation to cost of equity.

[706] Consolidated Expert Report on Valuation, 17 November 2016, para. 424.

[707] Expert Report on Valuation, 18 August 2014, footnote 57.

[708] *Ibidem*, paras 282-284.

[709] Consolidated Expert Report on Valuation, 17 November 2016, pages 275 (Table 34) and 342 (Table B.2). The ratio was set at 3.3% only in June 2007 (pages 274, Table 33, and 340, Table B.1).

[710] One may recall that the experts had later accepted that the Projects were protected by the BIT against expropriation; Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014, para. 86(d).

[711] Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, para. 62; Consolidated Update Report, 17 November 2016, para. 87. As explained at the 2017 March Hearing, the experts proceeded as follows: "But, if we agree that the Shareholders are more risky than debt, and if on average it's two - it's twice more risky, which is what we find, then I take the risk to the debt and multiply it by 2.2, and I get the risk to the Shareholders." TR-E, 2017 March Hearing, Day 14, p. 4239:1-6 (Spiller).

[712] Consolidated Update Report, 17 November 2016, para. 92.

[713] Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017, paras. 39-41, 50(b).

924. There is more. The Claimants' experts knew that the Petrozuata bond was the only debt they could take into consideration. They noted, indeed, that "[b]ecause the financial debt of the Projects was cancelled immediately after expropriation, there have been no direct observations of the Projects' cost of debt since mid-2007", and further: "If the Projects had outstanding debt as of 2016, however, one would still have to assess to what extent the yields on the bonds would be representative of a but-for scenario". The experts then concluded: "Because the Hamaca loan facilities did not represent traded market assets, we relied on an analysis of Petrozuata's bond for our country risk measurement for the Projects".[714] Thus, there was no debt to look at other than the Petrozuata bond and this in the abstract only, as the bond had been paid back and was no longer on the market. The credit rating up to December 2016 was indeed derived from the rating for the years 2002 to 2005 (further extended to 2007) on the basis of ratings concerning ten E&P companies operating in emerging markets, reported by credit agencies, and entirely unrelated to Venezuela[715]. It was then concluded that the bonds carried an average yield of 6.06% that the experts included in their calculation of the WACC, where it applied to the total debt exposure of 26% that the experts assumed based on U.S. market references for investors, while accepting that such exposure did not exist at the Projects under valuation[716]. This also means that the credit risk that the experts assume was included in the debt rate has no relation to either Venezuela or the Projects. Two errors must be mentioned here. First, ConocoPhillips Composite Economic Model of late 2006 (CEM, LECG-085) shows that the exposure for financing of the Projects compared to the total revenue after tax amounted to no more than 6%[717] (a number far below the Claimants' experts' debt portion of 26%), the bottom level of zero US$ being reached for Petrozuata in year 2023 and for Hamaca in 2018, while no financing was noted for Corocoro. Second, the risk component of the debt based on the bonds was not borne by the lenders alone. These bonds were accompanied by guarantees provided by sponsors and the shareholders' parent companies; through their involvement and the fees they had to pay to the banks operating as intermediary, these companies serving as back-up were equally covering part of the Projects' risk. This means that the cost of debt (anyhow small and later disappearing completely) must be treated like cost of equity in respect of this involvement of the Projects' holders. This renders the cost of debt portion highlighted by the Claimants' experts insignificant. This also means that the WACC cannot serve its purpose, which is to determine average cost of capital when more than one source of financing is involved.

i. The Projects' inherent discount rate

925. When considering more closely the Projects, the Tribunal observes that in this respect as well, the Parties are inclined to proceed by comparison to other projects and decisions, rather than

---

[714] *Ibidem*, para. 53, including footnote 75.

[715] Cf. *ibidem*, paras. 55-58.

[716] *Ibidem*, paras. 58, 63(b).

[717] LECG-085, page 12/pdf.

by addressing the relevant conditions of the Projects directly. The Respondent submits that the awards of other tribunals in cases involving the very same nationalization as the one at issue here should be looked at. This is correct, but not precise enough. The fact that the same nationalization took place does not mean, without further examination, that the conclusions reached in respect of another project must be the same as those pertinent for the Projects at issue in the instant case, which are based on different operational and economic parameters, conducted by different foreign investors, and which have to be valued at a different point in time. Any comparison to be conclusive should operate by analogy, which requires that the situations to be exposed one against the other are comparable, because they are based on the same or similar key-components and characteristics. Most discount analysis disregard this basic requirement, taking large numbers of companies into a sample that offers averages, but not analogies to the company at issue in the particular case. The experts on both sides were not successful in their approach based on comparisons of different kind but never involving the characteristics of the Projects in the instant case.

926. The Respondent insists on putting at the forefront as a comparative reference the *Mobil* cases discount rate of 18%. It referred to these decisions with so much emphasis that it gave the impression that it would be satisfied with such rate despite its experts' assertion that the proper rate should be 27.7%. In any event, while acknowledging that some assistance may be provided when considering the results reached in the *Mobil* decisions, this Tribunal must reach its own conclusion with its own reasons and it cannot therefore adopt the *Mobil* rate without examining the *Mobil* arbitrators' reasoning. In this respect, the result is not enlightening. The ICC *Mobil* Tribunal favored the respondent's assessment of the discount rate because it was left with no alternative, having rejected the claimant's position that was understood as submitting that no industry or country risk premium should apply[718]. More basically, the ICC Tribunal took as the main point of comparison the historical rate of return of the parent company's shareholders, which is in most cases, like the IRR, above the discount rate[719]. The ICSID *Mobil* Tribunal[720], ruling three years later, did not add to the ICC Award's analysis. The Tribunal noted that while the claimants had excluded the confiscation risk when determining the discount risk, it was unable to adopt their experts' approach. The Tribunal did not consider that other elements of the experts' reasoning could be of assistance[721]. It then noted that the Respondent's experts arrived at discount rates ranging from 18.5% to 23.9%, which represents a margin also retained by other arbitral tribunals. Thus, concluded the

[718] *Mobil Cerro Negro, Ltd. v. Petróleos de Venezuela, S.A. and PDVSA Cerro Negro, S.A.*, ICC Case No. 15416/JRF/CA, Final Award dated 23 December 2011, paras. 719, 722, 774-777 (R-462).

[719] *Ibidem*, paras. 775-777.

[720] *Venezuela Holdings, B.V., et al. v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/27, Award dated 9 October 2014 (CL-348).

[721] Cf. *ibidem*, para. 365.

Tribunal, an 18% discount rate appropriately reflects the existing risks in the present case[722]. In the instant case, in view of the extensive presentations made by the Parties and their experts, the Tribunal must find additional support for its conclusions. Little inspiration can be taken from discount rates retained by other arbitral awards relating to investments in Venezuela, adopting discount rates and their country risk portion offering variations between 10.09% (4%)[723], 14.9% (7.9%)[724], 18% (8.89%)[725], 19.88% (10.26%)[726], 21.25% (14.75%)[727], and 23% (6%)[728]. One may think that such divergence simply demonstrates inconsistencies in the arbitral tribunals' work. While this may be true up to a point, another and more convincing conclusion is that the disparity in rates demonstrates a disparity in the businesses involved and the need to derive discount rates based on the characteristics of each particular investment involved in each case.

927. As already expressed, the discount rate that the Tribunal must consider as pertinent at the present date of valuation, is different from the hurdle rate and from the internal rate of return (IRR). These latter rates express the estimated rate of return to obtain the profit the investor expects. Such expectation is influenced by the investor's understanding of the revenue it hopes to earn from the project. The information on the Tribunal's record shows that the expected profit return was estimated at about 20%. The hurdle rate, which is calculated by using techniques similar to those of discount rates, is again different, in the sense that it also reflects the investor's expectations, but does so in respect of his bottom level or minimum acceptable return, indicating the line where the decision to invest or not to invest reaches its crucial check point. Hurdle rates depend on the available capital budget and the overall business and expectations of risk bearing of the investing company[729]. The hurdle rate is therefore focused on the interests of the investor at the time he is investing and debating whether he should, or should not, jump over the "hurdle". A project's discount rate results from the economics of the project.

[722] *Ibidem*, paras. 366-368. It may be noted that the paragraphs here referred to have not been annulled by the Decision on Annulment, dated 9 March 2017, para. 196(3/4) (R-658).

[723] *Gold Reserve Inc. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB(AF)/09/1, Award dated 22 September 2014, paras. 839-844 (CL-328).

[724] *Flughafen Zürich A.G. and Gestión e Ingeniería IDC S.A. v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/10/19, Award dated 18 November 2014, paras. 878-910 (R-559).

[725] *Phillips Petroleum Company Venezuela Limited, ConocoPhillips Petrozuata B.V. v. Petróles de Venezuela S.A.* et al., Final Award, ICC 20549/ASM/JPA, dated 24 April 2018, paras. 1015-1084.

[726] *Saint-Gobin Performance Plastics Europe v. Bolivarian Repubic of Venezuela*, ICSID Case No. ARB/12/13, Decision on Liability and the Principles of Quantum, dated 30 December 2016, paras. 669-758 (R-655).

[727] *Tidewater Investment SRL and Tidewater Caribe, C.A. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/10/5, Award dated 13 March 2015, paras. 169-197 (R-642).

[728] *OI European Group BV v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/11/25, Award dated 10 March 2015, paras. 762-817.

[729] Cf. Abdala/Spiller, Consolidated Update Report, 17 November 2016, para. 188.

928. The Claimants observe quite rightly that, as the internal rate of return, the discount rate may change over time. It may have been higher at the beginning of the Projects than at the time of expropriation, and it may have further decreased since then. However, in order to demonstrate that such evolution has taken place, the evidence should be presented that the inherent value of the Projects has changed over time and that the prevailing rate shows some stability over the future until the end of the Projects. Such a study has not been made. Additionally, whereas some factors of risks disappeared after a certain time, such as the uncertainty about the available EHCO in the early years of the Projects (mentioned by the Claimants), other risks appeared at a later stage, such as the growing uncertainty about the available reserves in the later years of the Projects, the instability of oil prices and the risks enumerated in various documents mentioned above.

929. The perception of the Claimants' experts' analysis and conclusions is impacted by the understanding they had, at least at certain points in time, about the claims the Claimants brought before this Tribunal. Thus, in their third report, the Claimants' claim was, in their experts' understanding, twofold, comprising: (a) the Respondent's expropriation of Claimants' interests in the Projects, and (b) the prior changes to the Projects' fiscal regimes, implemented by the Respondent before 26 June 2007[730]. As the second claim is not before this Tribunal, the risk assumption should have been modified.

930. The Claimants' experts had determined a country risk premium of 4.37% in their Preliminary Report of 2008[731], which then moved up to 4.55% in May 2014[732], and to 4.8% in October 2014[733], before decreasing to 4.1% in December 2016[734] and increasing to 4.2% in May 2017[735]. The experts do not explain in a clear and convincing manner why their country risk conclusion leads to these different figures.

931. Whereas they do not address directly the country risk premium as related to the Projects, the Claimants' experts indirectly explain that the difference that appears between their own and the Respondent's experts' county risk formula is based, *inter alia*, on their difference in respect of the cost of debt, which is 6.1% for them, but 10.8% for the experts of the opposing Party[736]. This

---

[730] Rebuttal Report to Respondent's Experts' Second Reports, 15 April 2010, para. 1.

[731] Preliminary Valuation Report of ConocoPhillips' Investments in Venezuela, 12 September 2008, para. 18.

[732] Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, paras. 4, 64, 67.

[733] *Ibidem*, paras. 81, 100.

[734] Consolidated Update Report, 17 November 2016, footnote 111.

[735] Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017, para. 66.

[736] Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, Supplemental Report, 13 October 2014, para. 82.

position raises considerable doubt when observing that neither these experts nor the experts of the Respondent offer evidence of any debt portion of the Projects, at least in recent years.

932. The Claimants' experts accept that general country risk cannot be retained alone. Project-specific country risk has to be considered. Such risk is, by contrast, "the incremental risk that an investor in a particular project faces as a result of the location of the asset". Indeed, "when assessing the market value of an asset it is necessary to focus on how the particularities of the project interact with the riskiness of the jurisdiction where the project is located. In other words, the project-specific country risk is the relevant measure of country risk when calculating the fair market value of an asset".[737] While here the project-specific risk appears somehow intermingled with the country risk, there is evidence that both have to be separated: "In any case you need to analyze the project-specific risk and not the country risk in general."[738]

933. However, when the Claimants' experts, having stated this broad definition, identify such project-specific country risk, they do it in order to mitigate and reduce general country risk. Country risk attempts to capture incremental risks such as the additional volatility of domestic demand, the infrastructure of a developing country (exposing the projects to more supply risks than a company located in the U.S.), and Governmental actions and macroeconomic policy affecting businesses. However, say the experts, in the case at hand, the Projects' particular features limited their susceptibility to all sources of country risk, in particular because they produce a commodity (crude oil) traded worldwide and mostly exported from Venezuela, they are only partially exposed to supply-side sources of country risk, as most of the infrastructure used to operate the Projects is self-contained, and from a regulatory perspective, the Projects are protected against expropriation risks. In addition, the shareholder agreements provide additional protection to private investors against the imposition of arbitrary or discriminatory measures by Venezuela. In sum, the experts state, "the Projects were structured in a manner that minimized exposure to Venezuelan country risk"[739].

934. The Claimants' experts do not explain how this analysis is connected to the 4.55%, 4.8%, and later 4.2% of country risk they adopted[740]. In any event, it suffices to mention that while the compensation provision offer some protection to the investor, as the experts say, this is one facet

[737] *Ibidem*, para. 57; Consolidated Update Report, 17 November 2016, para. 82.

[738] TR-E, 2010 Hearing, Day 10, p. 2690:7/8 (Spiller).

[739] Consolidated Update Report, 17 November 2016, paras., 169/170. See also Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017, paras. 48/49.

[740] The experts simply state, as a conclusion, that "overall", their "assessment of the Projects' country risk exposure is reflected in a country risk premium of 4.55%", no explanation being provided why such exposure leads to this percentage. Cf. Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, para. 64.

of the compensation system only; the same provisions implicitly transfer to the Projects the host State's sovereign independence to take regulatory measures affecting the Projects' profitability ("no stabilization clause"), which is of course a risk inherent in the Projects' value. No negative factor increasing risks of the Projects is mentioned by the experts. The Petrozuata bonds are taken as reference, but the many risks enumerated in the bond circular, addressed to the bond holders, do not merit any mention or examination. As a contrast, the bond holders are told that in light of the fact that Venezuela's increased fiscal deficit and the deterioration in its overall macroeconomic situation, "the Projects could be adversely affected due to other political risk factors, such as an increase in the risk of supply chain disruptions"[741]. Nonetheless, the experts affirm that "the Projects have limited exposure to country risk"[742]. Thus, what were of serious concern for the bond holders is considered irrelevant for the equity holders, and these risks are not factored in their calculation when the WACC is determined. The taxation risk, represented in particular by the WPT, is not examined; it would have impacted the Projects but not the lenders.

935. It was only during the 2017 February and March hearings that the Claimants' experts acknowledged that the ConocoPhillips Composite Economic Model of late 2006 (CEM, LECG-085) set the Projects' discount rate at 13%. The experts had never mentioned this information before although they used the same Model extensively for their assessment of production and costs of the Projects. The experts argued that such rate had only been retained at the "time of the initial investment" and this may not be indicative of the risks that are relevant for a valuation at a more current date, such as December 2016[743]. Two remarks reduce the pertinence of this observation. The initial investments were to be examined before the years 1995 to 1997 when the Association Agreements were concluded, which means about 10 years before the Model was made. The assumption that discount rates were higher in the first years of operation of the Projects is incorrect in light of the difficulties and uncertainties appearing in 1999 as a result of the change of government and later at the end of 2001 when President Chávez obtained the legislative power by delegation for the purpose of changing the Law of Hydrocarbons. When the Composite Economic Model was set up, the economic situation was already far different from what the experts describe as the initial time for investment. Irrespective of the comments made by the experts, the fact is that the Projects' management at the relevant time retained a discount rate of 13% that cannot simply

[741] Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017, para. 32.

[742] *Ibidem*, paras. 45, 49. See also Damages Assessment for the Takings of ConocoPhillips' Investments in Venezuela, 19 May 2014, paras. 58/59; Consolidated Update Report, 17 November 2016, paras. 83/84.

[743] *Ibidem*, paras. 5/6. In this last report, the experts note a number of other discount rates and sensitivities resulting from the Projects' documents, which they had never addressed before. At the 2017 March Hearing, when the matter was raised, the experts acknowledged that they had not looked at the CEM's discount rate before, and that one would first have to know whether reference was made to cost of equity or to a WACC; TR-E, 2017 March Hearing, Day 13, p. 3979:8-3980:17 (Abdala/Spiller). This distinction relates to the presence of cost of debt that one would expect the experts to know. The answer seems rather to show an escape for not having searched for a truly specific project rate.

be qualified as irrelevant because of the circumstances prevailing at the time and on which the experts have based on the Composite Economic Model the assessments of other relevant characteristics of the Projects, such as the estimations on the costs of production. It may also be noted that the discount rate of 13% was not only mentioned in the Model at the time it was adopted, as the experts say. The same rate was included in the Model throughout the duration of the Projects, and this must have been well known to all participants[744].

936. This 13% rate must be looked at more closely. There is evidence from the Claimants that this rate represented a standard rate with little significance for the Projects[745]. However, this discount rate – and no other is used for comparison purposes – has been used to determine the Net Present Value (NPV) of the Projects and of ConocoPhillips' share; this results from the comparison of the Control Panel on the "COP Venezuela LRP Model" and the rubric on Economic Measures for each of the Projects[746]. Therefore, the 13% discount rate was a component of the Projects' economic valuation and has to be taken into account in the analysis of the value of the Projects' capital. All participants in the Projects, including the ConocoPhillips companies, have referred to this valuation. Therefore, it must be retained in a but-for scenario for which the Claimants rely heavily on the CEM.

937. The Claimants' experts accept that for an investment in debt, such as the Petrozuata bonds, the effective interest rate is a function of all risks associated with that investment at a particular point in time, as perceived by the debt holders[747]. The interest rate of approximately 8% set by the

[744] An exchange of views at the 2017 March Hearing allows to understand that an internal ConocoPhillips presentation from October 2006 (C-474, p. 18/pdf) calculated Net Present Value on the basis of a discount rate of 13%; cf. Day 15, p. 4502:14-4504:14 (Kahale). The same rate was mentioned in a report to the Phillips' Management Committee, dated 17 July 1999 (LECG-65, p. 2), in a Note to the Phillips' Board of Directors, dated 5 May 1997 (LECG-114), and in a presentation of the Corocoro Project of 8 August 2005 (LECG-225, p. 8, 29).

[745] Witness Statement of Jeff. W. Sheets, 30 October 2009, para. 20, affirming that the "discount rate of 13% is simply an approximate, hurdle rate used in an economic model built up for ConocoPhillips' internal screening of projects", and that he "would never use the flat 13% discount rate in the CEM to determine the fair market value of a particular asset". The Witness further stated that ConocoPhillips usually transacted developed projects at discount rates of 10% or lower; Second Witness Statement dated 14 May 2014, para. 6. This notwithstanding, the fact is that the 13% was used in the CEM and this in connection with the determination of the Net Profit Value of a Project that had been transacted about 10 years earlier. At the 2010 Hearing, the Witness told the Tribunal that ConocoPhillips did not have a standard risk factor; Day 6, p. 1638:4-6. He added that 13% was used as a standard metrics that allows comparisons between different ConocoPhillips projects and it had to be understood in nominal terms; *ibidem*, p. 1640:2-1641:2. The Respondent's experts also insisted on the fact that this rate was "standard"; TR-E, 2017 March Hearing, Day 14, p. 4137:17-4140:11 (Brailovsky/Flores). There was no evidence other than what had been said by Witness Sheets, and in particular no evidence demonstrating why a discount rate should be less reliable simply because it was "standard". Counsel of the Respondent also insisted on the discount rate being a standard rate, adding that then ConocoPhillips did "adjust based on the Net Present Value"; TR-E, 2017 March Hearing, Day 15, p. 4501:9-4502:10 (Kahale). This does not focus on the fact that in the CEM, the discount rate of 13% was used to determine the Net Present Value.

[746] Cf. LECG-085, pages (pdf) 10/11, 75 (Petrozuata), 125, 156 (Corocoro I), 14, 272 (Hamaca).

[747] Report on the Project-Specific Country Risk Applicable to the Claimants' Investments in Venezuela, 19 May 2017, para. 11.

lenders in 1997 represented all risks that were listed in the Circular. The Tribunal finds that the premium that was offered could have retained its value in later years, in view of the political risks as well as the Governments' regulatory and taxation measures derived from its sovereign power expressly reserved since the Projects' early days. However, the Claimants' experts reduce such premium to a minimal rate without taking account of the Projects' ongoing uncertainties in respect of the economic and financial future.

938. The experts accept that the Petrozuata Offering Circular is a valuable source of information to prospective investors; however, those investors will usually perform their own assessment of the risks they perceive as relevant at the point in time when they decide to invest, irrespective of whether those risks are mentioned explicitly in the initial offering documents. Moreover, the bond rate does not include consideration of the share of risks borne by the bond sponsors and the share-holders of the parent companies who are investors in the Projects but not investors in the bonds. Contrary to what the experts conclude, the Circular does not provide the proper measure of the overall risk of the asset, as assessed by equity investors in the Projects. When entering in the Projects in the 1990s, the Claimants accepted to run a risk of a dimension that has little elements of comparison to risks that later emerged as a counterpart of an investment in industry bonds for the same type of business.

939. Therefore, the Projects' inherent discount rate of 13% must prevail over the bond rate of 8% that is tied to the lenders' interests that comprise a smaller risk component and are protected by the sponsors and the shareholders' parent companies.

940. The Claimants' experts are right when they state that the compensation provisions offered an additional layer of protection[748]. They should also recognize, however, that this protection had the purpose of compensating, in part only, for discriminatory actions of the Government to which the investors were otherwise exposed to their detriment with no other additional protection than the BIT. Therefore, the damages suffered through such action had to count as risk factors to the extent they were not compensable through either PDVSA's compensation payments or through the measures of safeguard provided by the BIT.

941. The Respondent's experts were aware of the 13% Composite Economic Model's (CEM) discount rate of 13%; they referred to it in 2009[749] and 2010[750]. However, they chose not to discuss it further any more than the other rates used for comparison purposes in the CEM. They were given ample opportunity in the 2017 February and March hearings to reflect on the matter and were

[748] *Ibidem*, paras. 15-17.

[749] Brailovsky/Wells, Expert Report on the Discount Rate to be Applied to Projected Cashflows, 24 July 2009, para. 68.

[750] TR-E, 2010 Hearing, Day 12, p. 3325:22-3326:2 (Brailovsky).

invited to provide reactions and answers. However, they decided to remain silent even in their Additional Report of May 2017 after the hearings. But whatever the reason for their silence, they did not object to the CEM 13% rate, they simply decided to ignore it.

942. The Claimants have referred to a number of documents reflecting in their view the Projects' own practices, revealing rates in a range between 8% and 12%, many of them using a rate of 10%[751]. However, they omitted to mention the 2006 CEM for the discount rate but took it as the basic document for the economic and financial structure of the Projects for other purposes.

943. The Claimants' experts leave the Tribunal with little assistance. The characteristics of the discount rate they propose is that they are (a) representing averages and not guidelines to be directed to particular investment vehicles, and (b) in predominant part based on information collected on foreign markets by institutions that are well-known but predominantly oriented at market appraisals for new businesses rather than at the valuation of on-going investment operations.

944. As a first step in its conclusion, the Tribunal notes that in the Composite Economic Model (CEM) the Projects' discount rate of 13% was retained as the factor representing the risk component specific to the investment in which the Claimants engaged in the 1990s and would have conducted to the end of the Projects' life under a but-for scenario.

945. However, there is a second step. When considering the 13% rate mentioned in the CEM, the Tribunal notes that such rate cannot serve as the final criterion for discounting the dividends awarded in view of the future years. Indeed, when the Tribunal found the respective amounts, it did so after a detailed analysis of production and costs of each of the three Projects. This examination was based on all of the elements of evidence on the Tribunal's record, based on a prudent and realistic assessment. Compared to the Model the Parties use as prepared towards the end of 2006 and still reliable in June 2007, the Tribunal's assessment is different. The Model was based on business estimations that were certainly prepared seriously, with a high degree of professionalism, but they may also have received an input of optimism that may have resulted in envisaging a better future for the Projects than what it became in reality. As mentioned earlier it may suffice to note the cliff on productivity at the end of year 2023 that affected the Petrozuata Project that was not recorded in the early Model of 2006, and the difficulties the Hamaca upgrader was facing. The Tribunal has thus incorporated in its assessment risks that resulted from the evidence and events in the historical period that have not been included in the valuation on which the Model was based. As explained earlier in respect of interest and update factor, a similar comparison is to be made in respect of the profitability of the Projects, when comparing the data retained in the CEM with the values retained in this Award.

[751] Claimants' Final Submission on Quantum, paras. 399-401; Claimants' Memorial on Quantum, para. 185.

946. If the Tribunal were to retain the project related risk component of 13%, as mentioned in the Model, without adjusting it as a result of its findings, it would result in double counting. This is because the Tribunal's assessment of the Claimants' revenue already includes a portion of such risk that resulted in reduced figures on production and higher amounts of costs, compared to the corresponding amounts provided for in the Model. That portion of risk was included in the Model's 13% rate and has already been substantiated in the revenue determined by the Tribunal as the basis for the calculation of the dividends. These risks cannot be counted twice. The project-related risks that remain as part of the discount rate for purposes of this Award can only be unsubstantiated risks, such as all the risks mentioned in the Circular, excluding those that were identified by the Tribunal when it proceeded with its estimate of production and costs. In sum, when referring to the 13% discount rate used in the CEM, the pertinence of such rate must be evaluated in light of a comparison between the assessment on production and costs as retained in the Model, and the corresponding figures retained for the purposes of this Award. These differences are either based on reductions in respect of year-by-year production (mostly due, for instance for Hamaca, in the operation of the upgrader) or related to the shortening of the period of operation until its end, or on cost items consequential to risks that materialized already in the consideration of a but-for scenario. The Tribunal measures the overall impact of such substantiated risks at 25%. Therefore, if the CEM discount rate is taken as the reference, such impact leads to a reduction of the project related discount rate from 13% to 9.75%.

947. However, the Parties' submissions and their experts' views on respect of the pertinence of the CEM's 13% discount rate is less than satisfactory. The Model calculates the Projects' Net Present Value (NPV) by applying a discount rate of 13% to the dividends that were expected to accrue to the ConocoPhillips' B Shareholders, year by year, over the whole duration of the Projects (35 years for Petrozuata and Hamaca). While the Model is clear in that the calculations were based on the option to apply the 13% discount rate, the Parties failed to explain clearly the reasons why this rate was retained rather than any other one among the range of rates listed in the Model between 0% and 16%. As explained above, the Parties and their experts did not explain why the option for 13% was taken. This is striking in light of both Parties' insistence on the relevance of other of the CEM's components as important elements of the evidence before this Tribunal. It has been said by the Claimants that this rate was a "standard rate". However, nothing can be derived from the term "standard" in this matter, because a discount rate fixed for determining the value of money earned in the future implies necessarily a measure of average and thus of a "standard" to be applied at the same level during all the relevant years.

948. The Tribunal also notes that no explanation has been provided in reference of the main components of a discount rate specifically set at 13%. As noted above, this rate was used for calculating the Net Present Value of the Projects in light of the assumed profits represented by the Projects' dividends. Such method of calculation and the corresponding rate must have been based on a choice of policy made by those who operated the Projects in the years 2006/2007. The Parties

concentrated their efforts to reduce (Claimants) or increase (Respondent) the discount rate based on hypothesis such as assuming that the Petrozuata Bonds were to maintain a given rating throughout several years or that the Projects' discount rate would be somehow tied to the rate of the Venezuela sovereign bonds. They even mentioned discount rates used by each other in other projects and in completely different scenarios but failed to refer and sustain the discount rate that they have agreed to include in the CEM. The Parties did not consider or explain whether the 13% rate was assessed on the exclusive basis of the Project's economics, including production, costs, cash-flows up to the resulting dividends. They have speculated on what would be the costs of capital of ConocoPhillips as the foreign investor without indicating which costs of capital, if any, and on which basis, were included to determine the 13% rate included in the Model. Nonetheless, the Tribunal has evidence on the record of the fact that it had been decided at the time when the CEM was prepared and agreed upon that the discount rate of 13% was the most suitable option to determine the Net Present Value of the Projects. More information and cooperation from the Parties would have been useful, however, even if based on a comparative analysis.

949. The Tribunal finds additional support for its assessment in the set of documents originating in the earlier period of the setting up of the Projects in the years 1990s and in the references to discount rates made by the Parties during this arbitration. In the 1990s, the margin for possible discount rates was set between 8% and 12%, with a clearly prevailing focus put on the middle number of 10%. The Petrozuata Descriptive Report dated October 1996 used a discount rate of 10%[752]. For the Hamaca Phase II, the same rate served as the basic assumption in the years 1998 and 1999[753]; it was also applied in an Information Memorandum sponsored by the participants in the Project in August 2000[754]. The working draft of a Hamaca Economic Model dated 30 October 2006 was based on a 10% discount rate[755]. Witness Sheets also stated that ConocoPhillips usually transacted developed projects at discount rates of 10% or lower[756]. On the other hand, consolidated financial statements concerning PDVSA also refer to a discount rate of 10%[757]. The same rate had been retained in the Treaty concluded between Venezuela and China on 17 April 2010[758].

---

752 Joint Venture Project Maraven-Conoco, Petrozuata C.A., Descriptive Report, p. 22-24 (C-92).

753 Cf. the Business Plans dated 14 October 1998, p. 233 (LECG-002) and 30 April 1999, p. 7, 25, 28, 48 (C-73/461).

754 Hamaca Confidential Preliminary Information Memorandum prepared by Morgan Stanley Dean Witter, Volume I, p. XII-1 (C-101).

755 LECG-129, p. 253/pdf.

756 Second Witness Statement dated 14 May 2014, para. 6.

757 Petrozuata Offering Circular dated 17 June 1997, Annex G, p. G-45, p. 336/pdf (C-75).The 10% rate is also mentioned in the PDVSA Consolidated Financial Statements for years 2008 to 2010 (p. 88/pdf, C-593) and 2011 to 2013 (p. 106/pdf, C-616).

758 Article 6 (C-585).

950. When compared to the discount rate of 13% on which the CEM is based, the rate of 10% as the prevailing figure in the years mainly prior to 2000 may be different in the sense that it has not, and could not at that time, reflect a detailed assessment, year by year, of all the pertinent figures for production, costs, oil prices, taxes, cash-flow and dividends, etc. Therefore, when the Tribunal reduces the 13% rate to 9.75%, it does so on the basis of its own assessment of the economics of the Projects as detailed and specific as this had been done for the CEM in 2006. However, the 10% discount option made in the years 1995 to 2000 and the references to the 10% rate in later years also reflect the expectations of the Parties. Even though the 10% option was based on the ConocoPhillips' long standing business experience, it is closer to the rate that was determined in the CEM than the Parties' exaggerated rates presented to the Tribunal.

951. Thus, the Tribunal finds much support in the evidence on its record for the most reasonable assessment of the discount rate to be used for the determination of the value of the future dividends at the time of the Award. Indeed, both assessments lead to a nearly identical result. Starting with the CEM 13% discount rate resulting from the calculations based exclusively on the dividends produced in the future, the Tribunal's assessment of the actual figures representing the economics of the Projects in a but-for scenario must have the effect of reducing this number down to 9.75%, thus not considering yet the investor's own cost of capital. On the other hand, the more historical but nevertheless firmly supported rate of 10% stays very close to the rate of 9.75% derived from the CEM and updated to present time. Both rates taken together offer a solid margin for the assessment of the applicable discount rate.

952. By reference to one or the other rate mentioned above, the component of the risk valuation must be completed by the cost of capital the investor collects on the market for the purpose of transferring the required assets into the investment operating in the future. Both Parties and their experts share the view that this component must be divided in a risk-free rate and in an industry risk related part. The Parties' experts disagree in respect of the appropriate rates, but neither one of them puts forward any convincing argument when focused on the present time. Thus, when the Respondent's experts base their study of the market risk premiums on statistics dating back to 1926[759], the Tribunal does not feel that this is realistic for a present time assessment, where market rates for the oil production industry must be available worldwide. In view of the little effort made to bring numbers close when the difference is minimal and essentially based on statistics rather than on actual markets figures, the Tribunal will not proceed to examine highly hypothetical assessments which cannot possibly be converted into a legal perspective. As for the risk-free rate, the Tribunal adopts the Claimants' experts' choice to rely on a slightly more flexible 10-year U.S. Treasury Bonds instead of such Bonds having 20-year duration. The respective rate is 1.9%[760]. For

[759] Cf. Brailovsky/Flores, Consolidated Update Report, 17 November 2016, para. 415, pages 339 (Table A.2), 342 (Table B.2).

[760] Abdala/Spiller, Consolidated Expert Report on Valuation, 17 November 2016, paras. 76, 181(a), 166 (Figure 29).

the industry risk share, the Claimants' experts selected the beta factor corresponding to companies in the crude petroleum and natural gas industry, which is a sector close to the industry where the Projects belong, more than the midstream and downstream business that was the preference of the Respondent's experts. The rate thus to be retained is 5.5%[761].

j. Conclusion

953. When taking the above mentioned components of the cost of capital (1.9+5.5) and adding each of the above mentioned rates adopted on the basis of the assessment of the Projects' economics and cash flows, the resulting discount rate becomes 17.15%, and 17.40%. As explained above, the evidence before this Tribunal does not permit a definitive conclusion in favor of one or the other rate. In light of the uncertainties implied in such estimation, the Tribunal uses its margin of discretion and sets the discount rate to be retained in the instant case at 17.25%.

954. The calculations resulting from the explanations given above in both Sections XI and XII are therefore as follows:

[761] *Ibidem*, paras. 78/79, 181(b), 166 (Figure 29). The rate of 5.5% was also used by the experts in their presentation at the 2017 March Hearing (slide 29), while their WACC Model mentions a 6.12% market risk premium. The same table is presented in Claimants' Final Submission on Quantum, para. 411.

ConocoPhillips' Dividends together with Update (9.75%) and Discount (17.25%)						
	Petrozuata		Hamaca		Corocoro	
	CPZ Dividends		CPH Dividends		CPG Dividends	
2007 ½	118,474,157	130,025,387	235,580,893	258,550,030	--	
2008	335,629,241	368,353,092	355,432,880	390,087,586	18,193,531	19,967,400
2009	189,299,059	207,755,717	138,984,280	152,535,247	31,954,307	35,069,852
2010	298,179,642	327,252,157	393,769,548	432,162,079	45,012,002	49,400,672
2011	219,725,148	241,148,350	284,352,829	312,077,230	59,842,926	65,677,611
2012	234,178,868	257,011,308	233,237,062	255,977,676	55,581,118	61,000,277
2013	279,555,194	306,811,825	367,939,094	403,913,156	70,107,476	76,942,955
2014	252,323,770	276,925,338	295,262,710	324,050,824	61,124,930	67,084,611
2015	- 30,903,574	0	- 102,608,475	0	- 8,723,311	0
2016	89,600,242	98,336,266	82,425,743	90,462,253	21,194,635	23,261,117
2017	137,570,161	150,983,252	140,159,351	153,824,888	27,916,042	30,637,856
2018	176,517,019	193,728,428	212,588,134	233,315,477	31,342,280	34,398,152
2019	176,481,586	150,517,344	230,021,830	196,180,665	27,815,802	23,723,499
2020	207,274,313	150,766,885	248,723,021	180,915,785	27,490,559	19,996,042
2021	207,640,958	128,817,518	268,772,004	166,742,356	25,469,509	15,800,924
2022	227,505,626	120,379,716	262,159,475	138,716,056	23,412,655	12,388,304
2023	259,208,925	116,971,536	262,914,546	118,643,748	21,101,923	9,522,528
2024	186,634,186	71,832,109	293,269,618	112,874,151	18,336,517	7,057,392
2025	155,259,237	50,964,823	282,585,489	92,760,468	17,249,883	5,662,383
2026	133,939,127	37,498,006	285,971,160	80,061,357	16,249,946	4,549,384
2027			263,094,231	62,819,472		
2028			277,875,702	56,588,067		
2029			299,985,774	52,102,560		
2030			329,726,845	48,842,633		
2031			339,807,516	42,930,466		
2032			339,629,131	36,595,206		
2033			363,614,258	33,415,514		
2034			360,877,626	28,284,827		
2035			350,003,448	23,396,734		
2036			337,798,446	19,258,639		
Total	3,854,092,885	3,386,079,057	8,033,954,168	4,498,085,150	590,672,730	562,140,959
1	2	3	4	5	6	7

k. Tax net Award

955. The Claimants recall that their experts' valuations are net of all applicable taxes. Any subsequent taxation by Venezuela of the Award would thus result in the Claimants being taxed twice for the same income. As the tribunal in *ConocoPhillips v. PDVSA* recently confirmed, any additional taxes applying to the amount granted under the award would undermine the principle of full compensation of the damage incurred[762]. The Claimants request that the Tribunal declare in the

[762] Cf. *Phillips B.V. v. Petroleum Company Venezuela Limited & ConocoPhillips Petrozuata Petróleos de Venezuela, S.A.*, ICC 16849/JRF), Award dated 17 September 2012 (CL-255).

Award that (a) the Award is net of all Venezuelan taxes; (b) Venezuela may not tax or attempt to tax the Award; and (c) the Claimants have no further taxation obligations to Venezuela in respect of the three Projects.

956. The Tribunal notes, with the Claimants, that the Respondent appears to agree, as it did not comment on or refute the Claimants' request.

957. The Tribunal has carefully evaluated and applied to the assessment of costs and expenses of the Claimants' claims in a but-for scenario all applicable taxation measures. Therefore, applying the same or further taxes to the amount awarded would undermine the principle of full compensation, and, at least in part, double taxation. The Tribunal therefore grants the Claimants' request to declare the Award net of taxes.

XIII. Hamaca's Debt Repayment

958. The Respondent submits that it is undisputed that after the nationalization, PDVSA worked with the Claimants to relieve them of their debt obligations to the lenders in connection with the Hamaca Project, through a payment of US$ 298 million on behalf of ConocoPhillips. The Claimants' valuation taking into account the compensation provisions does not deduct this amount. If such deduction is made, the overall valuation as of 26 June 2007 results in the amount of US$ 1.134 billion.

959. The Claimants' answers to a question raised by the Tribunal in July 2017 are explicit in the sense that the Claimants accept that PDVSA had made debt service payments of US$ 298 million to Hamaca Project's lenders (R-119). The Claimants object strongly, however, to Venezuela's experts' suggestion that this payment was somehow linked to compensation for the expropriation[763].

960. The Tribunal notes that the outstanding debt at the time is not disputed between the Parties, and it involves an obligation borne by ConocoPhillips to repay to the lenders an amount of US$ 298 million, from which it was relieved by the PDVSA's subsidiary. While it is not contested that ConocoPhillips kept an obligation to compensate the PDVSA subsidiary for such payment it is argued that ConocoPhillips might be over-compensated when it would be compensated for the loss of profit resulting from the expropriation and simultaneously relieved from its debt. However, the Tribunal finds that this debt repayment relates to transactions between ConocoPhillips and the PDVSA subsidiary (or its successor in law) in case it would claim reimbursement. If the amount of US$ 298 million would be deducted from the compensation the Respondent has the burden to pay, the benefit would be for the Venezuelan Government. This would not have the effect of

[763] Cf. Claimants' Initial Replies to the Tribunal's Questions, 10 July 2017 - Claimants' Replies of 10 July 2017; Claimants' Supplemental Comments on the Tribunal's Questions, 31 July 2017 (Question 20).

reimbursing the PDVSA Company that had initially relieved ConocoPhillips from its obligation to repay the lenders. In any event, the Respondent does not request such payment to be made for the purpose of its own compensation, and it did not raise a counterclaim either. The suggestion was made by the Respondent's experts for calculation purposes and not in view of a legal assessment. Consequently, the Tribunal does not pursue the matter any further.

XIV. Avoidance of Double Recovery

961. The Claimants have declared on several occasions and in relation to the ICC Arbitration that they intend to comply with the principle that there should not be any double recovery (*see*, for the first time, Claimants' letter dated 10 October 2014). Such statement has been explained at two of the Tribunal's hearings[764]. In their Consolidated Brief of 30 December 2016, the Claimants have added that if they obtain payment from the relevant governmental actor through the other remedies expressly contemplated in the compensation provisions, they must provide an offset to the PDVSA subsidiaries through an appropriate credit or reimbursement (para. 87). The Tribunal is aware that a similar statement has been made on part of the claimants in the ICC arbitral proceeding[765]. In their cover letter dated 25 April 2018 sending the ICC Award dated 18 April 2018 to this Tribunal, the Claimants stated:

> The Tribunal likewise does not need to be concerned with any risk of double recovery. The Claimants here, and in the ICC case, have formally and repeatedly undertaken to ensure that no double recovery will ensue. Furthermore, no issue of double recovery could even potentially arise until the ICC claimants actually obtain payment on the ICC Award. In the event that the ICC respondents do not honor that Award, enforcement proceedings will be necessary to obtain actual payment." (footnotes omitted)

To the Tribunal's knowledge, Respondent has not reacted, either in approving or in rejecting such statement[766], which thus appears to be made unilaterally by the Claimants. When the Parties informed the Tribunal on 20 and 21 August 2018 about the settlement agreement in respect of the amounts awarded by the ICC Tribunal, they did not submit the content of this agreement. Therefore, the Tribunal is not aware whether the Claimants' undertaking has been repeated therein or provided with more indications as to its meaning.

---

[764] Cf. TR-E, 2017 March Hearing, Day 15, p. 4309:21-4311:3, 4510:5-17, 4513:18-4514:17, 4528:20-4529:15; 2017 September Hearing, Day 17, p. 5039:9-5065:5 (Partasides).

[765] *Phillips Petroleum Company Venezuela Limited, ConocoPhillips Petrozuata B.V. v. Petróles de Venezuela S.A.* et al., Final Award, ICC 20549/ASM/JPA, dated 24 April 2018, para. 1125.

[766] Counsel of the Respondent noted that he had not much positive to contribute to the discussion, except recalling that the issue had been raised in the *Mobil* case, where it was rendered moot because of the partial annulment of the Award. TR-E, 2017 September Hearing, Day 17, p. 5065:11-5066:16 (Kahale).

962. The Tribunal has raised with the Parties a number of questions as to the legal nature and effects of the undertaking made by the Claimants. The Tribunal is not, however, called to proceed with such examination any further and to draw conclusions having an effect on the resolution of the claims it is requested to make in its ruling.

963. The Tribunal notes that the Claimants' undertaking implies to produce effect when double recovery might become an issue, *i.e.* in the enforcement stage of one or both awards in case they reach such stage and the issue cannot be resolved through cooperation between the Parties. Therefore, in this regard, this Tribunal is not called to do more than to acknowledge the Claimants' undertaking, possibly in providing some support for the Claimants and some relief to the Respondent, as otherwise the official and solemn submission of this undertaking would have had no meaning.

964. The Tribunal finds that meaning can be given at least in the form of recalling the legal principle that is at the very basis of the Claimants' declaration, which implicitly invokes a principle of international law that it shall not be permitted to seek double recovery and thus cause an illegal enrichment that the international legal order must condemn. The Claimants were manifestly acting in good faith and their position was as such appreciated by the Respondent. The fundamental legal basis is thus the principle of good faith and it is in this regard that the Claimants, albeit without saying it so precisely, wanted undoubtedly to express their intention not to seek double recovery as a consequence of the two arbitral proceedings that had been launched and that are awarding amounts based at least in part on the same subject matters, albeit not between the same parties.

965. Both Parties recognized the close connection of the Claimants' commitment to the claim before this Tribunal, which means that the matter is to a minimal extent within this Tribunal's jurisdiction. The Tribunal therefore endorses the Claimants' undertaking and will declare that the Claimants are under a duty of good faith not to seek double recovery when seeking enforcement, in full or in part, of the Award rendered by this ICSID Tribunal.

XV. Legal Fees and Costs

A. The Claimants' Position

966. In their submission dated 16 April 2018 and updated on 17 September 2018, the Claimants stated their costs incurred as follows:

Category	Incurred Amount (US$)
Advances paid to ICSID	
Claimants' portion of advance on costs	4,525,000.00
Respondent's portion of advance on costs (paid in substitution by the Claimants)	1,400,000.00
Total advances paid to ICSID	5,925,000.00
Legal fees	
Freshfields Bruckhaus Deringer US LLP	36,777,972.00
Three Crowns LLP	3,889,622.50
Total legal fees	40,667,594.50
Expert fees and expenses	
Compass Lexecon / LECG	15,916,639.64
Moyes & Co.	271,633.51
Muse Stancil	492,587.87
Strickland Group	1,670,711.84
Total expert fees and expenses	18,351,572.86
Disbursements and other charges	
Freshfields Bruckhaus Deringer US LLP	3,150,362.39
Three Crowns LLP	133,772.75
Claimants' Travel & Expenses	589,227.58
Document & Translation Services	616,358.26
Other Vendors (trial graphics, etc.)	301,357.23
Total disbursements and other charges	4,791,078.21
Total costs claimed	69,735,245.57

967. In support of the reimbursement of these costs, the Claimants submit that they have been forced to incur substantial legal fees and costs in pursuing their right to reparation for Venezuela's unlawful expropriation over the course of nearly 10 years. Venezuela bears full responsibility for the costs the Claimants have incurred, and Venezuela must compensate the Claimants fully for them. Three principles support this conclusion.

968. First, the Tribunal has the authority to award costs that follow the event, as a large and growing body of investment tribunals have done. The allocation of the costs of the arbitration between the parties, including ICSID's administrative charges, the Tribunal's fees and expenses, and the legal and other expenses reasonably incurred by the Parties is governed by Article 61(2) of the ICSID Convention. There has been a marked and growing trend toward awarding costs to the

prevailing party, as a function of its success in the case, as confirmed in *Libananco v. Turkey*[767]. Numerous other tribunals have reached the same conclusion, as in the cases *Gold Reserve*[768] and *ADC*[769]. The Claimants are the prevailing party in this case. The Tribunal has already ruled for the Claimants on this arbitration's two largest questions: whether the Tribunal had jurisdiction under Article 9 of the BIT to hear the Claimants' claims and whether Venezuela breached Article 6 of the BIT. The Tribunal has also ruled for the Claimants on numerous applications, including: six motions to disqualify either their appointed arbitrator or the Tribunal President; a request for reconsideration of the Tribunal's 2013 Merits Decision; and a request for reconsideration of that reconsideration decision.

969. Second, awarding full costs and fees to a prevailing claimant is required to achieve full reparation, thus following the principle of full reparation established in *Chorzów Factory*. Had Venezuela complied with its obligations under the Treaty and international law, there would have been no need for this arbitration, and the substantial expenses associated therewith. Tribunals have recognized the complementarity of the "full reparation" principle with the practice of awarding costs to the prevailing party. These ICSID proceedings are of historic scale, now spanning over more than nine years, and involving no fewer than 11 major written submissions by the Claimants. Venezuela refused even to take the necessary initial step of negotiating compensation for the expropriation in good faith. Unless Venezuela compensates the Claimants for the arbitration expenses that they should not have had to incur, the Claimants will not be fully restored to their but-for position.

970. Third, the Tribunal should consider Venezuela's dilatory and obstructionist tactics in assessing costs against it. Assessing all costs against the Respondent is further justified by Venezuela's deliberately wasteful, dilatory and abusive tactics in this proceeding. Prior ICSID costs award have taken into account the fact that a party has obstructed or prolonged the proceedings, including by raising unmeritorious arbitrator and jurisdictional challenges. Venezuela's attempts to postpone accountability for its unlawful conduct have been serial. Venezuela has not limited itself to challenging the Tribunal's members on no better ground than displeasure at the substance of their rulings; it has also consistently refused to accept the Tribunal's decisions. Venezuela's refusal to respect adverse results has demonstrated its disrespect not only of the Tribunal's authority, but also of its own solemn Treaty obligations. On the basis of these tactics alone, the Tribunal would be entirely justified to assess costs and fees against Venezuela in full.

[767] *Libananco Holdings Co. Ltd. v. Republic of Turkey*, ICSID Case No. ARB/06/8, Award dated 2 September 2011 (R-451).

[768] *Gold Reserve Inc. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB(AF)/09/1, Award dated 22 September 2014 (CL-328).

[769] *ADC Affiliate Limited and ADC & ADMC Management Limited v. The Republic of Hungary*, ICSID Case No. ARB/03/16, Award of 2 October 2006 (CL-15).

971. The Claimants note that their costs were further increased by the Respondent's misconduct when Venezuela has chosen to disregard its financial obligations to ICSID and this Tribunal, forcing the Claimants to pay nearly US$ 1 million in substitution for the Respondent. This, too, is serious (and intentional) misconduct that should be given heavy weight in the overall allocation of costs.

972. For all the above reasons, the Claimants are entitled to full reimbursement of their arbitration costs and expenses, including legal and expert fees, to which shall be added post-award compound interest on these costs and expenses.

973. One particular element of full reparation in respect of legal fees and costs is expressed in Claimants' request that they should be granted pre-award compound interest, running from the time when the costs were incurred. Specifically, the Claimants' pre-award interest should be awarded on the sums and as of the dates of the following procedural key-events: (1) Merit phase: US$ 23,639,516.28 in legal fees and US$ 2,544,062.59 in related expenses with interest as from 7 September 2013; (2) first procedural interruption: US$ 1,616,075,62 and US$ 69,786.06 (5 May 2014); (3) written *quantum* phase: US$ 3,689,252.00 and US$ 220,465.55 (28 January 2015); (4) second procedural interruption: US$ 2,685,503.00 and US$ 65,493.37 (15 March 2016); (5) reconstituted *quantum* phase: US$ 9,037,247.60 and US$ 384,336.57 (date of the Award). The Claimants submit that pre-award interest should also be granted on the sum the Claimants paid to ICSID in substitution for the Respondent. In the alternative, the Claimants request that pre-award interest should at least be granted on legal fees and related expenses incurred during the first and second procedural interruptions, which represent the peak periods of the Respondent's procedural misconduct.

974. In their rebuttal letter dated 3 May 2018, the Claimants replied shortly to the Respondent's cost submission, affirming that the Respondent has no entitlement to recover any portion of its costs in circumstances where (i) it admits that it expropriated the Claimants' investment and that compensation is due, (ii) it never paid any compensation at all, and (iii) the Tribunal has found that expropriation to be unlawful. The Claimants also noted that it understood the Respondent making the concession that the procedural "chaos" after the first phase was engendered by its own "misrepresentation" allegations, which have been rejected by the Tribunal.

B. The Respondent's Position

975. In the submission contained in its letter dated 16 April 2018, the Respondent stated its costs incurred as follows:

Category	Hours	Amount Billed (US$)
Attorneys & Paralegals		
Partners	29,099.67	19,733,379
Counsel	4,289.40	2,253,966
Associates	50,871.37	17,565,381
Paralegals	17,584.23	3,536,621
Total Attorneys & Paralegals	101,844.67	43,089,347
Experts		
Econ One Research (Economic Experts: Jeffrey Leitzinger, Anthony Finizza, Joseph Wilkinson, Daniel Flores and Support Staff)		5,213,757
Vladimir Brailovsky (Economic Expert)		1,670,080
Louis T. Wells (Economic Expert)		816,917
Jesús Rafael Patiño Murillo (Technical Expert)		300,798
Rafael Sandrea (Technical Expert)		366,243
John Kirtley (Technical Expert)		272,562
M. Sornarajah (International Law Expert)		125,000
Enrique Urdaneta Fontiveros (Venezuelan Law Expert)		385,960
Gary Gartner (Tax Expert)		359,450
Total Experts		9,510,767
Expenses & Arbitration Costs		
Expenses (Travel, translations, and other expenses)		2,381,199
Arbitrators' fees and expenses and ICSID administrative costs		3,125,000
Total Expenses & Arbitration Costs		5,506,199
Overall Total		58,106,313

976. The Respondent submits that all of its costs should be deducted from any compensation award. This entire arbitration occurred only because the Claimants refused to accept exceedingly generous compensation offers more than nine years ago. The Claimants should not be rewarded for their strategy of rejecting those offers and pursuing a windfall in international arbitration.

977. The manner by which the Claimants litigated this case, in both phases, provides further reasons for assessing costs against them. (i) The Claimants and their fact witnesses made over 200 allegations of fiscal guarantees. (ii) The Claimants told the Tribunal that "Venezuela made it clear that it would not offer compensation based on Fair Market Value" and it made many other misrepresentations, which had an impact on the majority of the Tribunal, leading to its finding on bad faith negotiation.

978. In the second phase of this case, the Claimants did everything they could to avoid a hearing on their misrepresentations and on the finding of bad faith negotiation. It took three years until the Respondent was granted the opportunity to set the record straight. At the August 2016 hearing, Mr. Goff gave frank testimony on the subject of the compensation negotiations and showing that what the Claimants had told the Tribunal had been false.

979. At the end of the August 2016 hearing, the Tribunal requested the Parties to present four valuations, including valuations as of 26 June 2007, with and without considering the compensation provisions. That was the first time in this entire litigation that the Claimants showed what they considered to be fair market value as of 26 June 2007. The lengthy delay in this case is attributable in large part to that strategy.

980. Based on the foregoing factors, all costs should be assessed against the Claimants. The Tribunal has discretion to do so.

981. The Respondent did not comment the Claimants' cost submission, except in objecting, in its letter dated 18 April 2018, to the Claimants' attempt to reiterate their allegations of bad faith and misconduct.

C. The Tribunal's Findings

982. The Tribunal notes at the outset that the figures for costs and fees of each Party have not been contested by the opposing Party. Although the amounts put forward appear high in comparison to the great majority of ICSID arbitrations, the Tribunal has no reason to inquire about their substance in light of the long duration of this arbitral proceeding, the size of the record and the complexity of a great number of questions raised. The Claimants' reference to a total of 27 memorials and other substantive submissions of more than 3700 pages, and the 33 total hearing days, provide an idea of the size of the case.

983. The Parties have not reached an agreement as to the arbitration costs and their allocation. There is no provision in the BIT applicable to this matter[770]. The Tribunal shall therefore apply Article 61(2) of the ICSID Convention, which reads as follows:

> In the case of arbitration proceedings the Tribunal shall, except as the parties otherwise agree, assess the expenses incurred by the parties in connection with the proceedings, and shall decide how and by whom those expenses, the fees and expenses of the members of

[770] While interest is not mentioned in Article 9(3) of the BIT, the Tribunal concludes that it is included in the term "compensation".

> the Tribunal and the charges for the use of the facilities of the Centre shall be paid. Such decision shall form part of the award[771].

984. This provision requires the Tribunal to make its own assessment resulting in a decision. This means implicitly that there does not exist an *a priori* solution on the allocation of costs, like a principle that would require that each party should bear its own costs and that the costs of the tribunal and the ICSID Secretariat should be borne in equal shares by the parties, regardless of the outcome of the arbitration and other circumstances pertinent to the proceeding.

985. Article 61(2) of the ICSID Convention does not determine any specific factor to be taken into account by the Tribunal for its decision on costs. This means that the Tribunal has wide discretion in determining the allocation of costs of the arbitration, including legal fees and expenses. That said, such discretion should of course be exercised with care and with due regard to the relevant criteria.

986. Arbitral tribunals usually state that when using their discretion, the tribunal will take account of a great number of factors having an influence on the allocation of costs. When looking closer to most awards, the prevailing circumstances are generally the outcome of the case and the procedural behavior and efficiency of the parties.

987. The key principle governing the allocation of costs in international arbitration is that costs "follow the event, *i.e.* the costs are to be borne by the unsuccessful party". The principle of "full reparation", on which the Claimants' claim for costs is based, relies on such an understanding.

988. However, "full reparation" cannot mean more, in this respect, than the amount of reparation accepted by the Tribunal. It does not support a claim for costs in proportion to the amounts claimed that have not been allocated by the Tribunal. Additionally, the assessment whether a party had been "successful" or not, in full or in part, cannot be based on the decision on quantum only. The outcome of jurisdictional objections also counts. A party's success may also be determined in light of the pertinence of the merits of its case independently from the resulting amounts. These factors will be examined further below.

989. The Tribunal does not put particular weight on the manner in which the Parties have conducted the case, keeping in mind the complexity of the case, the enormous size of the evidentiary documentation and the profound analyses provided by the economic and technical experts. Each Party is at liberty in the choice of its strategy in the litigation and the way it considers the most appropriate to assemble and present its evidence. Such choice of methodology should not become a factor of judgment by the Tribunal, even under the ancillary perspective of the allocation of costs,

---

[771] Arbitration Rule 47(1)(j) confirms that "any" decision of the Tribunal regarding the cost of the proceeding shall be contained in the award.

unless a particular behavior during trial shows signs of abuse of process, bad faith or reflects harassing litigation, which should not be awarded any merit in having the opposing party condemned to contributory payment of the associated costs.

990. In the present case, the Tribunal has appreciated the professional and courteous conduct of the proceeding on part of counsel, experts, and witnesses on both sides. Certainly, some pleadings may have shown to be excessive in their content and language, but the Tribunal has not felt being faced with attitudes beyond the limits noted above. The Tribunal also recalls that in its Interim Decision it had not approved the Respondent's allegation on misrepresentation directed against the Claimants, and that it had accepted that Venezuela was not acting in bad faith in the framework of the negotiations with the Claimants, the failure of which ended in the Claimants' initiative to commence these arbitral proceedings. Therefore, in sum, there is no point in penalizing the conduct of this litigation by one or the other side through a corresponding allocation of costs and fees.

991. The Tribunal considers that the ICSID fees and expenses have been determined irrespective of the amounts claimed and without evaluating the potential success or *prima facie* chance for prevailing before the Tribunal. Therefore, the sharing of the costs of this ICSID proceeding should not be influenced by the respective portion of success or loss of each Party in relation to its claims or defenses. There is no link of causality between the amounts of the costs of the arbitral proceeding and the amounts of damages claimed. These costs are based on the above mentioned circumstances of a highly complex and most extensively documented case. Therefore, neither the principle of "full reparation", nor its division in any portion of the claims should have a bearing on the allocation of these costs.

992. For this reason, the Tribunal decides that the Tribunal members' fees and expenses, the ICSID administrative fees and other direct expenses have to be evenly divided between the Parties in amounts represented in their statement of costs, and also including the share invoiced after the filing of these statements. The Respondent has not paid the last four advances requested by the ICSID Secretariat, in a total amount of US$ 1,400,000. The Claimants paid this amount in substitution of the Respondent; this amount must be reimbursed by the Respondent to the Claimants. The balance held by the ICSID Secretariat at the end of this proceeding shall be refunded to the Claimants. In order for the Claimants to recover the amount paid in excess of their share, the Respondent shall reimburse the sum of US$ 1,400,000, less the sum refunded by the ICSID Secretariat to the Claimants.

993. When further considering the translation of the principle of "full reparation" in the present case to the allocation of costs, the Tribunal must evaluate the respective weight of the Claimants' claims as they are awarded by the Tribunal, in comparison to the pertinence and the success of the Respondent's defenses, relating either to the Tribunal's jurisdiction or to the merits of the case.

994. The Tribunal observes at the outset that the Claimants are successful in their principal claim based on the violation of Article 6 of the BIT. This must lead to a decision ordering the Respondent to bear a significant part of the Claimants' legal fees and costs.

995. The Claimants submit that had Venezuela not failed to comply with its obligations under the Treaty and international law, "there would have been no need for this arbitration, and the substantial expenses associated therewith"[772]. These expenses are thus burdens among the consequences of Venezuela's conduct. However, such an assumption has no ground in respect of amounts claimed in the arbitral proceeding that have not been made subject of negotiations with Venezuela in order to settle the damages resulting – as alleged by the Claimants – from Venezuela's failure to satisfy its obligations under Article 6(c) of the BIT. At the time of the expropriation, the Claimants considered their assets having a net present value of more than US$ 20 billion[773]. Such amount is far below the US$ 30 billion claimed in the arbitration. The 20 billion figure was three times higher than the value of the asset trade ConocoPhillips offered to Venezuela in August 2007[774]. This shows that the 20 billion was a top-figure clearly above the amount that would have been in a range of an acceptable settlement.

996. As stated by the *Libananco* Tribunal, quoted by the Claimants, a rule under which costs follow the event also serves the purpose of discouraging unmeritorious actions and of providing a disincentive to over-litigation[775]. However, such a policy should be followed to the extent only as it sanctions excessive claims, defenses and procedural behaviors. If such threshold is not reached, a tribunal should be reluctant to reject a strategy chosen by a party in good faith twice, first as to the merits and second on the level of costs.

997. With these considerations in mind, the Tribunal compares the shares of the Claimants and those of the Respondent in the success of their claims and defenses, respectively.

998. The Claimants' Memorial dated 15 September 2008 determined the total amount of losses as of 31 August 2008 at US$ 20,468,700,000. To this amount was added a gross-up required to make the Claimants whole in respect of U.S. Federal and State Income Taxes in the amount of US$ 9,836,700,000. The total amount of the Claimants' claim was therefore US$ 30,305,400,000[776]. Based on the up-date as of 31 October 2009 provided in the Claimants' Reply dated 2 November

[772] Claimants' Statement on Costs, para. 11.

[773] Cf. Interim Decision, para. 105, together with the references, in particular Mr. Limbacher's letter to Dr. Mommer, dated 10 August 2007 (R-653).

[774] Cf. Interim Decision, para. 103.

[775] *Libananco Holdings Co. Ltd. v. Republic of Turkey*, ICSID Case No. ARB/06/8, Award dated 2 September 2011, para. 563 (R-451).

[776] Claimants' Memorial, paras. 387, 472/473; 2013 Decision, para. 214.

2009, the above mentioned figures became US$ 19,727,500,000 for the losses and US$ 9,441,000,000 for the tax burden caused by the expropriation, ending in a total amount of US$ 29,168,500,000[777].

999. Based on the findings of the Tribunal's 2013 Decision on Jurisdiction and the Merits, the Claimants determined in their Memorial on Quantum dated 19 May 2014 their stake in foregone cash flows to equity for the period June 2007 to May 2014 as US$ 9,484,811,792, and their stake in project equity as of May 2014 at US$ 9,747,930,323, both figures resulting in a total damages figure of US$ 19,232,742,115[778]. In the Claimants' Reply on Quantum dated 13 October 2014, the corresponding figures were US$ 10,211,058,984 and US$ 8,653,883,843, resulting in a total of US$ 18,864,942,827[779]. In the Claimants' Final Submission on Quantum these numbers again changed and became, as of 30 December 2016, US$ 16,070,029,788 and US$ 5,276,159,925, resulting in a damage claim in a total of US$ 21,346,189,713[780].

1000. In respect of the impact on the costs allocation of these claims and figures, the Tribunal deals firstly with the claim made by the ConocoPhillips Company based on its loss of future tax credits in an amount close to US$ 10 billion. The Tribunal decided in its 2013 Decision that it does not have jurisdiction under Article 22 of the Investment Law and accordingly the claims by ConocoPhillips Company are dismissed[781]. It also noted that only this Company and not the Dutch companies (the actual Claimants) made these claims and that this Company is not able to claim under the Dutch BIT[782]. Consequently, this Company had no longer any claim pending before the Tribunal. There was no agreement or order on the discontinuance of the proceeding in respect of the ConocoPhillips Company made or any other formal decision that this Company was no longer a Party to the proceeding. In its communication sent to the Parties on 3 September 2013, the ICSID Secretariat noted that "in light of the Tribunal's conclusions, the case will be renamed as *ConocoPhillips Petrozuata B.V., ConocoPhillips Hamaca B.V. and ConocoPhillips Gulf of Paria B.V. v. Bolivarian Republic of Venezuela* (ICSID Case No. ARB/07/30)". No decision was made on whether and to what extent the advances paid by or on behalf of the ConocoPhillips parent Company (including the resulting income) remained with the ICSID Secretariat. They were treated as

[777] Claimants' Reply, para. 608.

[778] Claimants' Memorial on Quantum, para. 234.

[779] Claimants' Reply on Quantum, para. 457.

[780] Claimants' Final Submission on Quantum, para. 534.

[781] 2013 Decision, para. 404(a).

[782] Cf. 2013 Decision, para. 263.

advances attributed to the three remaining Dutch ConocoPhillips companies. The Parties simply have taken note of the disappearance of the ConocoPhillips parent Company from the case[783].

1001. The Tribunal also decided in 2013 that questions concerning the costs and expenses of the Tribunal and the costs of the Parties' determination are reserved for future determination[784]. No objection has ever been raised against this conclusion. The assumption must have been, to the extent it came to the minds of those involved, that the three remaining Dutch ConocoPhillips companies were continuing the proceeding as claimant parties dealing with all potentially remaining procedural issues related to their parent company. The Tribunal concludes therefore that the allocation of fees and costs in this Award includes consideration of the dismissal of ConocoPhillips Company's claim for its loss of future tax credits to the extent it may have an impact on the assessment of costs and fees in the relation of the Parties actually involved in this proceeding.

1002. The Claimants lost in their defense of the Respondent's objection to the Tribunal's jurisdiction they argued to be based on Article 22 of the Investment Law and related to the ConocoPhillips Company's claim for its losses of future tax credits. This claim amounted to nearly US$ 10 billion, corresponding to one third of the total amount claimed when this arbitral proceeding was initiated[785]. However, the dismissal of this claim cannot have an effect on the allocation of costs in a proportion measured by the amounts involved. This claim was dismissed on grounds of lack of jurisdiction, a result that was not impacted by the amount of the claim. Moreover, this decision was the consequence of the Tribunal's conclusion that the three Dutch ConocoPhillips Companies failed in their argument that Article 22 of the Investment Law included Venezuela's consent to ICSID jurisdiction.

1003. While the Claimants prevail in their main claim for damages arising out of the expropriation enforced in violation of Article 6(c) of the BIT, the principle of "full reparation", to the extent it is applicable, cannot lead to a full allocation of costs and fees to the Claimants in this respect, given the fact that the Tribunal awards approximately 40% of the approximately US$ 21 billion claimed.

---

[783] In its letter dated 8 September 2013, the Respondent noted that the Tribunal's conclusion "excludes the bizarre US$10 billion claim of the parent entity, ConocoPhillips Company, for alleged loss of U.S. tax credits, which undoubtedly would have been rejected even if jurisdiction had existed". The Claimants did not address the matter directly, but noted in their Memorial on Quantum (footnote 1) that the terms "ConocoPhillips" are used to refer collectively to the three claimant companies and their predecessors and affiliates, but with the exception of Section VI containing the Request for Relief, made in the name of the three Dutch Companies CPZ, CPH and CGP exclusively, who were henceforth the only claimant parties in this proceeding. The same Memorial was submitted on behalf of these three companies, whereas the ConocoPhillips Company was no longer mentioned as claimant on the cover page.

[784] 2013 Decision, para. 404(g).

[785] In this respect, when addressing the phase ending on 7 September 2013, the Claimants' cost submission of 16 April 2018 refers to a "Merits Phase" exclusively (paras 26, 30, Annex B), not observing that this phase included a jurisdictional part.

1004. When these both factors are taken together, the balance between success and loss on claims would leave the Claimants with about 40% of their initial expropriation claim dressed up to US$ 21 billion, further adjusted by the loss of the ConocoPhillips Company's claim for US$ 10 billion. However, the Tribunal considers that such valuation cannot be made on a basis reflecting claimed amounts only. Figures are not counting alone. The ConocoPhillips tax claim was certainly of an ancillary nature and must have represented a fraction much smaller than a third of each Party's costs and fees. This claim was dismissed on jurisdictional grounds, which were the same than those analysed in respect of the three Dutch ConocoPhillips Companies; it did not require an examination of its merits. Therefore, the dismissal of this claim cannot be counted for more than a part of US$ 13.5 million of the Claimants' legal fees and costs out of a total of approximately US$ 40.6 million. The main and overwhelmingly prevailing claim was based on the expropriation and the violation of Article 6 of the BIT, however granted for only 40% of its amount. On the other hand, it must also be taken account of the fact that the submissions and the associated evidence and lawyers' fees were in large part addressing the merits of the claim and its numerous factual and legal elements, independently from the amount of damages. Therefore, the Tribunal's balance focuses on a cost sharing where the Respondent shall share about 40% of the Claimants' fees and disbursements of a total of US$ 64.7 million less the reduction related to the ConocoPhillips Company's tax claim (US$ 13.5 million). The Tribunal therefore orders the Respondent to pay the Claimants (respectively to the claimant company they designate) the amount of US$ 20,461,000 million as contribution to the Claimants' legal fees and costs.

1005. The Tribunal also determines that the amount to be paid by the Respondent as reimbursement for legal fees and costs shall be subject to interest. In this respect, the rate of interest is not based on the commercial consideration on which interest on the profit of the investment, respectively on the Claimants' cost of equity, is based. Therefore, the Tribunal retains a rate of 3%, granted as simple interest. No circumstances requiring compounded interest have been demonstrated in this respect.

1006. The Tribunal does not accept the Claimants' request to be awarded legal fees and expenses by phases, with the effect that as from the end of each procedural phase the Respondent would be under an obligation to pay the Claimants' fees and expenses related to this phase, with the further effect that compound interest would be triggered as from any of such dates separately.

1007. Such an apportionment in several distinct credit amounts relating to fees and costs is not provided for in Article 61(2) of the ICSID Convention, which states that the decision to be made in this respect shall form part of the award, except as the parties otherwise agree. No such agreement has been concluded between the Parties. The assessment and the allocation of legal fees and costs can therefore not become legally effective before the Award is rendered; it cannot trigger pre-award interest either. Theoretically, this leaves open the option that fees and costs are calculated on a factual cost-to-date basis, together with interest representing the costs for financing the

corresponding expenses during the proceeding. This is not, however, the method the Claimants requested this Tribunal to apply. On the other hand, the Tribunal cannot know whether such calculation has not yet been included in the figures presented by the Claimants, which are not given with their details nor accompanied by an explanation.

1008. The Tribunal also notes that in their cost submission dated 16 April 2018 the Claimants do not request a separate allocation of costs to the Respondent in respect of each of the seven arbitrator challenges and each of the three reconsideration applications, two of which failed, while the third was equally denied but resulted in a clarification expressed in the Tribunal's Interim Decision. The Claimants have based their cost submission on the exclusive basis of full reparation to be owed by the Respondent, which absorbs the Claimants' costs of these miscellaneous proceedings. Additionally, the Claimants have given finally their preference to a cost allocation by procedural phases, which supersedes their initial requests (in all cases deferred by the Tribunal to a later stage in the proceedings) to have such assessment made in respect of each of such procedural incident separately.

XVI. Decision

1009. The Tribunal incorporates by reference in this Award the Decision on Jurisdiction and the Merits dated 3 September 2013 and its Interim Decision dated 17 January 2017.

1010. Based on the reasons stated above, the Tribunal decides:

1. That the Respondent, the Bolivarian Republic of Venezuela, shall pay as compensation for the expropriation enforced on 26 June 2007 in breach of Article 6 of the Agreement on Encouragement and Reciprocal Protection of Investments between the Kingdom of the Netherlands and the Republic of Venezuela dated 22 October 1991, the following amounts to the Claimants:
    a. ConocoPhillips Petrozuata B.V. (CPZ) US$ 3,386,079,057;
    b. ConocoPhillips Hamaca B.V. (CPH) US$ 4,498,085,150; and
    c. ConocoPhillips Gulf of Paria B.V. (CGP) US$ 562,140,959.

2. The above mentioned amounts shall be paid together with interest at an annual rate of 5.5%, compounded annually, until the date of full and final payment of these amounts.

3. The Bolivarian Republic of Venezuela shall pay to ConocoPhillips Petrozuata B.V. (CPZ) the amount of US$ 286,740,989 based on the compensation provisions of the Petrozuata Association Agreement, together with simple interest until the date of full and final payment at 12-month LIBOR or any other comparable rate in case LIBOR should be discontinued in the future.

4. The claim of the Bolivarian Republic of Venezuela to deduct from the Claimants' claim the amount of US$ 298 million as repayment of a service payment made to the Hamaca Project's lenders by PDVSA is dismissed.

5. The Tribunal declares that the Claimants are under an obligation based on the principle of good faith not to seek double recovery when seeking enforcement, in full or in part, of this Award beyond the amounts awarded by the Arbitral Tribunal of the International Chamber of Commerce (ICC) through its Final Award dated 24 April 2018 (20549/ASM/JPA) between *Phillips Petroleum Company Venezuela Limited, ConocoPhillips Petrozuata B.V. (claimants) and Petróleos de Venezuela, S.A., Corpoguanipa, S.A., PDVSA Petróleo, S.A. (respondents)*.

6. The Bolivarian Republic of Venezuela shall pay the Claimants (respectively the claimant company they designate) the amount of US$ 20,461,000 as contribution to the Claimants' legal fees and costs, together with simple interest at an annual rate of 3% until the date of full and final payment of this amount.

7. The Bolivarian Republic of Venezuela shall pay to the Claimants (respectively the claimant company they designate) the amount of US$ 1,400,000 representing the advances for costs to ICSID paid by the Claimants in substitution for the Respondent, together with simple interest at an annual rate of 3% until the date of full and final payment of this amount. This amount shall be reduced by the balance refunded by ICSID to the Claimants.

8. Except for the amounts mentioned in the two preceding paragraphs, each Party shall bear its advances for costs paid to ICSID and its own legal fees and costs.

9. Payment by the Respondent of the amounts awarded herein shall be made not later than 60 days after the issuance of the present Award. Interests on the amounts awarded will start to run at the expiration of the above mentioned 60-day period.

10. The Tribunal declares that (a) the Award is net of all applicable Venezuelan taxes; (b) Venezuela shall not tax or attempt to tax the Award; (c) the Claimants have no further taxation obligations to Venezuela in respect of the three Projects; and (d) in case taxes have nonetheless to be paid by the Claimants, the Respondent shall be liable to compensate the Claimants for the corresponding amount in such a way that the amount effectively received by the Claimants after deduction of all applicable taxes corresponds to the full amount (including interest) granted by this Tribunal.

11. To dismiss any other claim submitted by the Parties.

[signed]

Prof. Andreas Bucher
Arbitrator

Date: 27 February 2019

[signed]

The Hon. L. Yves Fortier, QC
Arbitrator

Date: 27 February 2019

[signed]

Mr. Eduardo Zuleta
President of the Tribunal

Date: 27 February 2019

20549/ASM/JPA (C-20550/ASM) 24 April 2018

PHILLIPS PETROLEUM COMPANY VENEZUELA LIMITED

CONOCOPHILLIPS PETROZUATA B.V.

CLAIMANTS

v.

PETRÓLEOS DE VENEZUELA, S.A.

CORPOGUANIPA, S.A.

PDVSA PETRÓLEO, S.A.

RESPONDENTS

FINAL AWARD

Arbitral Tribunal

Prof. Laurent Aynès

Prof. Andrea Giardina

Dr. Laurent Lévy (President)

Secretary to the Arbitral Tribunal

Ms. Eva Kalnina

TABLE OF CONTENTS

TABLE OF ABBREVIATIONS

1943 Hydrocarbons Law	Law Partially Reforming the Hydrocarbons Law, Extraordinary Official Gazette No. 1,149, published on 15 September 1967
1975 Nationalization Law	Organic Law that Reserves to the State the Industry and the Trade of Hydrocarbons, Extraordinary Official Gazette No. 1,769, published on 29 August 1975
1991 Income Tax Law	Law Partially Reforming the Income Tax Law, Extraordinary Official Gazette No. 4,300, published on 13 August 1991
1993 Bicameral Commission PDVSA Report	Report Approved by the Bicameral Commission for the Study of the Strategic Associations of PDVSA concerning the Projects Maraven-Conoco [Petrozuata] and Maraven-Total-Itochu-Marubeni [Sincor] for the Exploitation and Upgrading of Extra-Heavy Petroleum of the Orinoco Oil Belt, dated 12 August 1993
1993 Income Tax Law	Decree-Law No. 3,113, Issuing the Law Partially Amending the Income Tax Law, Extraordinary Official Gazette No. 4,628, published on 9 September 1993
1993 Senate Committee Report	Report of the Senate Permanent Environmental and Land Use Planning Committee regarding the Association between the Companies Maraven and Conoco for the Exploitation and Upgrading of Extra-Heavy Crude from the Orinoco Oil Belt, dated April 1993
1994 Income Tax Law	Decree Reforming the Income Tax Law, Decree No. 188, Extraordinary Official Gazette No. 4,727, published on 27 May 1994
2001 Hydrocarbons Law	Organic Law of Hydrocarbons, as published in Official Gazette No. 37,323, dated 13 November 2001
2002 Expropriation Law	Law of Expropriation for Reasons of Public Utility or Social Interest, Official Gazette No. 37.475, published on July 1, 2002.
2006 Income Tax Law	Law Partially Reforming the Income Tax Law, Official Gazette No. 38,529, published on 25 September 2006
2007 Nationalization Decree or Decree	Decree Having the Rank, Value and Force of Law of Migration to Mixed Companies of the Association Agreements of the Orinoco Oil Belt, as well as the Risk and Profit Sharing Exploration Agreements, Decree No. 5,200, Official Gazette No. 38,632, published on 26 February 2007
ADCO or Anti-Drug Contribution	*Ley Orgánica Contra el Tráfico Ilícito y el Consumo de Sustancias Estupefacientes y Pscicotrópicas* of 2005
Ameriven	Petrolera Ameriven S.A., the entity responsible for the day-to-day operations of the Hamaca Project on behalf of the Project participants
Ameriven Model	Petrolera Ameriven Economic Model of 2006

Answer	Respondents' Answer to the Requests for Arbitration of 5 February 2015
Apertura Petrolera	The "Oil Opening," in Venezuela
API	American Petroleum Institute
ARCO	Arco Orinoco Development Inc., a subsidiary of Atlantic Richfield Company
Art.	Article
Association Agreements or AAs	The Petrozuata Association Agreement and the Hamaca Association Agreement, collectively
AUVM	Abdala Updated Valuation Model in Annex E to C-PHB
BIT	The Netherlands-Venezuela Bilateral Investment Treaty
BPD	Barrels per day
Brent	North Sea Brent Crude
Buy-Out Provision	Article 14.4 and 14.5 of the Hamaca AA
C-	Claimants' Exhibits
CAPEX	Capital expenses
CCO	Commercial Crude Oil (or Synthetic Crude Oil), namely upgraded EHCO
Chávez	Hugo Chávez, the President of the Bolivarian Republic of Venezuela, from 1998 (elected) – 2013 (deceased)
Chávez 2007 Speech	Transcript of Aló Presidente Nº 288: From the Orinoco Oil Belt, Hugo Chávez Frías, President of the Bolivarian Republic of Venezuela, 29 July 2007 (transcript available from Servicio TvPrensa)
Claimants	ConocoPhillips Petrozuata B.V. and Phillips Petroleum Company Venezuela Limited, collectively
CMC	Case Management Conference of 24 March 2016
CNPC	Chinese National Petroleum Corporation
Composite Economic Model	ConocoPhillips Composite Economic Model, as updated in 2006
Congressional Authorizations	The Petrozuata Congressional Authorization and the First Hamaca Congressional Authorization
Conoco	Conoco Inc. (merged with Phillips Petroleum Company to become ConocoPhillips)

Conoco Orinoco	Conoco Orinoco Inc. (CPZ's predecessor-in-interest)
ConocoPhillips	ConocoPhillips Company, a corporation incorporated under the laws of the State of Delaware
ConocoPhillips ICSID Decision	ConocoPhillips Petrozuata B.V. et al. v Bolivarian Republic of Venezuela, ICSID Case No. ARB/07/30, Decision on Jurisdiction and the Merits, dated 3 September 2013
ConocoPhillips OPEC Award	Phillips Petroleum Company Venezuela Limited et al. v Petróleos de Venezuela, ICC Case No. 16848/JRF/CA (C-16849/JRF/CA), Final Award, 17 September 2012
Corpoguanipa or Corpoven Sub	Corpoguanipa, S.A.
Corpoven	Corpoven, S.A.
CPH	Phillips Petroleum Company Venezuela Limited
C-PHB	Claimants' Post-Hearing Brief of 20 March 2017
CPZ	ConocoPhillips Petrozuata B.V.
CVP	Corporación Venezolana del Petróleo, the first Venezuelan State oil company established in 1960
D&M	DeGolyer and MacNaughton, international consulting firm which periodically audited ConocoPhillips's Reserves figures
DA (or DAs)	Discriminatory Action(s) as defined at Section 1.01 of the Petrozuata AA and Article 14.1(b) of the Hamaca AA
DCF	Discounted cash flow
DCO	Diluted crude oil
Del Pino	Eulogio Del Pino, successor of Rafael Ramírez Carreño as President of PDVSA as of 2014. Member of PDVSA's Board of Directors and President of CVP (2005 – 2014); director on the boards of the Petrozuata and Hamaca JVCs from early 2005 onwards.
DLOM	Discount for lack of marketability
DuPont	E. I. du Pont de Nemours and Company, formerly Conoco's parent company
E&P	Energy & Petroleum industry
EHCO	Extra Heavy Crude Oil
Enabling Law	Law that Authorizes the President of the Republic to Issue Decrees Having Rank, Value, and Force of Law on the Matters Delegated Hereby, Official Gazette No. 38,617, published on 1 February 2007

EOR	Enhanced oil recovery
ER	Expert Report
Expropriation	the Goverments' act of disspossessing the Claimants of the Projects in mid-2007, pursuant to the 2007 Nationalization Decree
Extraction Tax	New oil tax introduced pursuant to the Law of Partial Reform of Decree No. 1.510 with Force of Organic Law of Hydrocarbons, Official Gazette No. 38.443, published on 24 May 2006, which had the equivalent effect of further increasing the royalty rate to 33.33%
ExxonMobil ICSID Award	Venezuela Holdings, B.V., Mobil Cerro Negro Holding, Ltd. et al. v Bolivarian Republic of Venezuela, ICSID Case No. ARB/07/27, Award, dated 9 October 2014
First Hamaca Congressional Authorization or HCA	Agreement Approving the Framework of Conditions of the Association Agreement for the Production, Transportation and Upgrading of Extra-Heavy Crude to Be Produced in the Hamaca Area of the Orinoco Oil Belt, as well as the Marketing of the Upgraded Crude and Other Products Generated During the Process of Production and Upgrading of Such Crudes, to Be Entered into between Corpoguanipa, a Subsidiary of Petróleos de Venezuela, and the Companies Atlantic Richfield Co. (ARCO), Phillips Petroleum Company and Texaco, Inc., Official Gazette No. 36,209, published on 20 May 1997
First Willful Breach Claim	The Claimants' claim concerning the Respondents' alleged failure to use "reasonable commercial efforts"
Government or Venezuela	The Government of the Bolivarian Republic of Venezuela
Guarantees	The Petrozuata Guaranty and the Hamaca Guarantee, collectively
Hamaca Association Agreement or Hamaca AA	Association Agreement between Corpoguanipa, S.A., Arco Orinoco Development Inc., Phillips Petroleum Company Venezuela Ltd., and Texaco Orinoco Resources Company, dated 9 July 1997 (as amended)
Hamaca Guarantee	Guarantee Agreement between Petróleos de Venezuela, S.A., Arco Orinoco Development Inc., Phillips Petroleum Company Venezuela Ltd., and Texaco Orinoco Resources Company, dated 9 July 1997 (as amended) (also Hamaca AA, Exhibit M)
Hamaca JVC	Petrolera Hamaca S.A., the entity responsible, through its Board of Directors, for the overall direction and supervision of the Hamaca Project
Hamaca Project	Project underlying the Hamaca AA
Hearing	The evidentiary hearing held in Washington DC from 26 November – 10 December 2016
IBA Rules	IBA Rules on the Taking of Evidence in International Arbitration (2010)
ICAPM	International Capital Asset Pricing Model

ICC Rules	Arbitration Rules of the International Chamber of Commerce in force as of 1 January 2012
ICSID Arbitration or ICSID Case	ConocoPhillips Petrozuata B.V., ConocoPhillips Hamaca B.V., ConocoPhillips Gulf of Paria B.V. v Bolivarian Republic of Venezuela, ICSID Case No. ARB/07/30
ICSID tribunal	The arbitral tribunal as re-constituted in the ICSID Arbitration, including Mr. Eduardo Zuleta (President), Mr. L. Yves Fortier, CC, QC, and Mr. Andreas Bucher
Income Tax Increase	Income tax change, effective 1 January 2007, which raised the applicable income tax rate for these EHCO projects from 34% to 50%
Law on Effects of Migration	Law on the Effects of the Process of Migration into Mixed Companies of the Association Agreements of the Orinoco Oil Belt, as well as the Exploration at Risk and Profit Sharing Agreements, Official Gazette No. 38,785, published on 8 October 2007
LPG	Liquefied petroleum gas
MAE	Material Adverse Effect pursuant to Article 14.2(a) of the Hamaca AA
Maraven	Maraven S.A. (PDVSA Petróleo is its successor-in-interest)
Maya	Crude oil sold in the Mexican Gulf
Ministry	Venezuelan Ministry of Energy and Mines or the Ministry of Energy and Petroleum or the People's Ministry of Energy and Petroleum or the People's Power Ministry of Oil and Mining
Mobil ICC Award	Mobil Cerro Negro, Ltd. v Petróleos de Venezuela, S.A. et al., ICC Case No. 15416/JRF/CA, Award, dated 23 December 2011
Mommer	Dr. Bernard Mommer, appointed by Chávez in 2005 to serve simultaneously as External Director to PDVSA's Board of Directors and Vice Minister of Hydrocarbons for Energy and Petroleum
MOU	Memorandum of Understanding proposed on 30 April 2007, which would transfer the control of all operations to PDVSA
OPEC	Organization of Petroleum Exporting Countries
OPEX	Operating expenses
Orinoco Oil Belt	An area in Venezuela that contains vast reserves of extra heavy crude oil
OSF	On-stream Factor
Overall Expropriation	The Royalty Increase, the Extraction Tax and the Expropriation, jointly
PDVSA	Petróleos de Venezuela, S.A.
PDVSA Petróleo	PDVSA Petróleo, S.A.

PDVSA Subsidiaries	PDVSA Petróleo, S.A. and Corpoguanipa, S.A., collectively
Petrozuata Association Agreement or Petrozuata AA	Association Agreement between Maraven S.A. and Conoco Orinoco Inc., originally dated 10 November 1995, and modified on 18 June 1997
Petrozuata C.A.	Petrolera Zuata, Petrozuata C.A.
Petrozuata Congressional Authorization or PCA	Congressional Authorization of the Petrozuata Association Agreement, Official Gazette No. 35.293, published 9 September 1993
Petrozuata Guaranty	Guaranty and Indemnification Agreement between Conoco Orinoco Inc. and Petróleos de Venezuela, S.A., dated 10 November 1995 (also Petrozuata AA, Exhibit P)
Petrozuata JVC	Petrozuata C.A., the incorporated joint venture through which the Petrozuata Project was structured. Owned by CPZ (50.1 percent) and PDVSA Petróleo (49.9 percent), Petrozuata C.A. directed, coordinated and supervised the activities related to the Petrozuata Project
Petrozuata Project	Project underlying the Petrozuata AA
Phillips	Phillips Petroleum Company (merged with Conoco Inc. to become ConocoPhillips)
PO 1	Procedural Order No.1 of 15 June 2015
PO 2	Procedural Order No.2 of 8 April 2016 (Tribunal's Decision on Parties' Document Requests)
PO 3	Procedural Order No.3 of 8 July 2016 (Tribunal's Decision on Respondents' Application concerning the Claimants' Document Production)
PO 4	Procedural Order No.4 of 4 October 2016 (Tribunal's Decision on pre-Hearing matters)
PO 5	Procedural Order No.5 of 14 December 2016
Project JVCs	Hamaca JVC and Petrozuata JVC, collectively
Projects	The Petrozuata Project and the Hamaca Project, collectively
R-	Respondents' Exhibits
RAM	Reliability, availability and maintainability studies
Ramirez	Rafael Ramírez Carreño, appointed in 2004 to serve simultaneously as the Venezuelan Minister of Energy and President of PDVSA
Rejoinder	Respondents' Rejoinder of 9 September 2016

Reply	Claimants' Reply and Defense to Counterclaim of 27 May 2016
Request(s) / RfA	Claimants' Requests for Arbitration of 10 October 2014
Respondents	Petróleos de Venezuela, S.A., Corpoguanipa, S.A. and PDVSA Petróleo, S.A., collectively
RIK payments	Royalty-in-kind payments
Royalty Measure	abrogation of the 1998 Royalty Agreement in October 2004, resulting in an increase in applicable royalty rates from 1% to 16.66%
Royalty Reduction Agreement or 1998 Royalty Agreement	Royalty Agreement of the Strategic Associations of the Orinoco Oil Belt between the Ministry and PDVSA Petróleo dated 29 May 1998
R-PHB	Respondents' Post-Hearing Brief of 20 March 2017
SCO or syncrude	Synthetic crude oil
Second Hamaca Congressional Authorization	Agreement of the Congress of the Venezuelan Republic Authorizing the Execution of an Association Agreement and its Annexes for the Exploration, Development, Production, Blending, Processing, Transportation, Refining and Upgrading, as well as the Marketing of Crude Oil and Other Products to be Generated During the Process of the Production and Upgrading of Such Extra-Heavy Crudes in the Area Determined by the Ministry of Energy and Mines, Among the Subsidiaries of Corpoven, S.A., a Subsidiary of Petróleos de Venezuela, S.A., Atlantic Richfield Company, Phillips Petroleum Company and Texaco Inc., on the Terms and Conditions that Have Been Presented by the National Executive Branch, Official Gazette, No. 36.235, published on 26 June 1997
Second Willful Breach Claim	The Claimants' claim concerning the Respondents' alleged non-performance of the AAs and the Guarantees
SED	Significant Economic Damage pursuant to Section 1.01 of the Petrozuata AA
SoC	the Claimants' Statement of Claim of 17 July 2015
SOCO or Social Contribution	Social Contribution of 2007
SoD	Respondents' Statement of Defense of 12 February 2016
SPAT or Special Advantage	Special Advantage Tax of 2007 (referred to as Shadow Tax by the Claimants)
SPEC or Special Contribution	The Ley de Contribución Especial sobre Precios Extraordinarios del Mercado Internacional de Hidrocarburos of 2008 (referred to as Windfall Profits Tax by the Claimants)
STC or Science and Technology	The *Ley Orgánica de Ciencia, Tecnología e Innovación* of 2005 together with the Ley de *Reforma de la Ley Orgánica de Ciencia,*

Contribution	*Tecnología e Innovación* of 2010
Texaco	Texaco Orinoco Resources Company, now a subsidiary of Chevron Corporation
ToR	The Terms of Reference dated 12 June 2015
Tr. (day) page: line	Transcript of the Hearing (day) (page: line)
US PPI	US Producer Price Index
VCC	Venezuelan Civil Code, Extraordinary Official Gazette No. 2.990 published on 26 July 1982
VCoC	Venezuelan Commercial Code, Extraordinary Official Gazette No. 475, published on 21 December 1955
Venezuelan Constitution	1999 Constitution of the Bolivarian Republic of Venezuela, Official Gazette No. 36.860, published on 30 December 1999
WACC	Weighted average cost of capital
Willful Breach Claims	The Claimants' First Willful Breach Claim and Second Willful Breach Claim, jointly

I. INTRODUCTION

A. THE PARTIES AND THE TRIBUNAL

1. The Claimants

1. Claimant 1 is:

PHILLIPS PETROLEUM COMPANY VENEZUELA LIMITED ("CPH")
P.O. Box HM 1179, Hamilton HM EX
Canon's Court
22 Victoria Street
Hamilton, HM 12
Bermuda

Claimant 2 is:

CONOCOPHILLIPS PETROZUATA B.V. ("CPZ")
Zurich Tower (15th Floor)
Muzenstraat 89
2511 WB Den Haag
The Netherlands

2. Claimants 1 and 2 (collectively referred to as the "Claimants"), are all engaged in the business of exploration and production of oil and natural gas.

3. The Claimants are represented in this arbitration by:

Constantine Partasides QC
Lucy Martinez
THREE CROWNS LLP
New Fetter Place
8-10 New Fetter Lane
London EC4A 1AZ
United Kingdom
constantine.partasides@threecrownsllp.com
lucy.martinez@threecrownsllp.com

Jan Paulsson
Luke Sobota
Kiran N. Gore
Hugh Carlson

THREE CROWNS LLP
2001 Pennsylvania Avenue, Suite 1100
Washington, D.C. 20006
U.S.A.
jan.paulsson@threecrownsllp.com
luke.sobota@threecrownsllp.com
kiran.gore@threecrownsllp.com
hugh.carlson@threecrownsllp.com

D. Brian King
Elliot Friedman
Sam Prevatt
Lee Rovinescu
FRESHFIELDS BRUCKHAUS DERINGER US LLP
601 Lexington Avenue, 31st Floor
New York, NY 10022
U.S.A.
brian.king@freshfields.com
elliot.friedman@freshfields.com
sam.prevatt@freshfields.com
lee.rovinescu@freshfields.com

Janet Kelly, General Counsel
Laura M. Robertson, Deputy General Counsel, Litigation and Arbitration
Suzana Blades, Lead Counsel, Arbitrations
Fernando Avila, Senior Counsel, E&P Americas
Alberto Ravell, Senior Legal Counsel
CONOCOPHILLIPS COMPANY
600 N. Diary Ashford, ML 1040
Houston, TX 77079
U.S.A.
janet.l.kelly@conocophillips.com
laura.m.robertson@conocophillips.com
suzana.m.blades@conocophillips.com
fernando.a.avila@conocophillips.com
alberto.f.ravell@conocophillips.com

2. The Respondents

4. Respondent 1 is:

PETRÓLEOS DE VENEZUELA, S.A. ("PDVSA")
Avenida Libertador
Edificio Petróleos de Venezuela
Urb. La Campiña
Caracas
Venezuela

Respondent 2 is:

CORPOGUANIPA, S.A. ("Corpoguanipa")
Avenida Libertador
Edificio Petróleos de Venezuela
Urb. La Campiña
Caracas
Venezuela

Respondent 3 is:

PDVSA PETROLEO, S.A. ("PDVSA Petróleo")
Avenida Libertador
Edificio Petróleos de Venezuela
Urb. La Campiña
Caracas
Venezuela

5. PDVSA Petroleo and Corpoguanipa are referred to jointly as "PDVSA Subsidiaries"; PDVSA and PDVSA Subsidiaries are collectively referred to as the "Respondents".

6. The Respondents are represented in this arbitration by:

George Kahale, III
Benard V. Preziosi, Jr
Simon Batifort
Miriam Harwood
J. Benton Heath

Fuad Zarbiyev
Arianna Sánchez
CURTIS, MALLET-PREVOST, COLT & MOSLE LLP
101 Park Avenue
New York, NY, 10178
U.S.A.
gkahale@curtis.com
bpreziosi@curtis.com
sbatifort@curtis.com
mharwood@curtis.com
ben.heath@curtis.com
fzarbiyev@curtis.com
arianna.sanchez@curtis.com

Tullio Treves
Irene Petrelli
CURTIS, MALLET-PREVOST, COLT & MOSLE LLP
3 Corso Matteotti
20121 Milano
Italy
ttreves@curtis.com
ipetrelli@curtis.com

Eloy Barbara de Parres
Dori Yoldi
CURTIS, MALLET-PREVOST, COLT & MOSLE, SC
Rubén Darío 281, Piso 9
Col. Bosque de Chapultepec
11580 México, D.F.
México
ebarbara@curtis.com
dyoldi@curtis.com

On 23 March 2018, the Respondents advised that Respondent 2 is represented in this arbitration also by the following counsel:

Alfredo De Jesus S.
Alfredo De Jesus O.
Eloisa Falcon Lopez
Marie-Therese Hervella
DE JESUS & DE JESUS
20, rue Quentin Bauchart
75008 Paris
France

3. The Tribunal

7. The Arbitral Tribunal is composed of[1]:

Dr. Laurent Lévy (the President of the Tribunal)
LEVY KAUFMANN-KOHLER
3-5, rue du Conseil-Général
P.O. Box 552
1211 Geneva 4
Switzerland
Tel.: +41 22 809 62 00
Email: laurent.levy@lk-k.com

Prof. Laurent Aynès (arbitrator jointly nominated by the Claimants)
DARROIS VILLEY BROCHIER
69 avenue Victor Hugo
75116 Paris
France
Tel.: +33 145 02 1919
Email: laynes@darroisvilley.com

Prof. Andrea Giardina (arbitrator jointly nominated by the Respondents)
CHIOMENTI STUDIO LEGALE
Via XXIV Maggio 43

[1] Letter from the ICC Secretariat to the Parties of 27 March 2015.

I-00187 Rome
Italy
Tel.: +39 06 466 221
Email: andrea.giardina@chiomenti.net

8. A Secretary to the Tribunal has been appointed by the Arbitral Tribunal with the consent of the Parties, who have received her CV and her statement of independence. The Secretary is:

Eva Kalnina
LÉVY KAUFMANN-KOHLER
3-5, rue du Conseil-Général
P.O. Box 552
1211 Geneva 4
Switzerland
Tel.: +41 22 809 62 00
Email: eva.kalnina@lk-k.com

B. SUMMARY OF THE MAIN FACTS

9. The present dispute arises from the Respondents' alleged unlawful confiscation of the the Claimants' interests in two extra-heavy crude oil ("EHCO") joint ventures in Venezuela: the Petrozuata Project[2] and the Hamaca Project[3] (together, the "Projects"), and from the Respondents' alleged breaches of their contractual undertakings and guarantees in relation to these Projects.

10. The below summary gives an overview of the present dispute. It does not include all facts which may be of relevance, particularly as they emerged from the extensive evidence gathered at the hearing. Where necessary, the relevant factual aspects will be discussed in the context of the Tribunal's analysis of the disputed issues.

11. To provide some historical context, the discovery of Venezuela's oil reserves and their extraction by foreign oil companies commenced in and around the 1920s. In light of these developments, Venezuela enacted certain measures, such as the 1943 Hydrocarbons Law, with the alleged objective of providing investors with a stable legal framework in order to incentivize investments.[4] However, it appears that although the EHCO reserves had been discovered by this point in time, they "remained untapped, partly due to the expense and technological difficulty of extracting, transporting, and processing the EHCO into a marketable commodity".[5]

12. A policy shift from the late 1950s resulted in Venezuela gradually reverting the oil assets to its own patrimony, until finally in 1975, Venezuela enacted the 1975 Nationalization Law. Pursuant to this law all existing oil concessions in favour of foreign oil companies were cancelled and all activities related to the exploration, exploitation, manufacturing, refining and marketing of oil were "reserved to the State".[6] The 1975 Nationalization Law also provided for the creation of Petróleos de

---

[2] Project underlying the Association Agreement between Maraven S.A. and Conoco Orinoco Inc., originally dated 10 November 1995, and modified 18 June 1997 ("Petrozuata AA").

[3] Project underlying the Association Agreement between Corpoguanipa, Arco Orinoco Development Inc. (ARCO), CPH and Texaco Orinoco Resources Company ("Texaco"), dated 9 July 1997, as amended ("Hamaca AA").

[4] See Law Partially Reforming the Hydrocarbons Law, Extraordinary Official Gazette No. 1,149, published on 15 September 1967 ("1943 Hydrocarbons Law"), **C-5**.

[5] SoC, § 34.

[6] Organic Law that Reserves to the State the Industry and the Trade of Hydrocarbons, Extraordinary Official Gazette No. 1,769, published on 29 August 1975 ("1975 Nationalization Law"), **C-7/R-278**, Article 1 ("Due to reasons of national convenience, activities related with explorations carried out in the national territory to find oil, asphalt and other hydrocarbons; with exploitations of oil fields, the manufacturing or refining, transportation by special means and storage; with the trade at local and foreign level of substances exploited and refined, and with works required in connection therewith, under the terms provided for herein, shall be reserved to the State. In consequence, based upon the provisions provided for in this Article, the concessions granted by the National

Venezuela, S.A. ("PDVSA"), a new State-owned and controlled national oil company which would be responsible for the development and management of all oil activities going forward.[7] The only limited concession for private participation in the hydrocarbons industry was made in Article 5 of the 1975 Nationalization Law. This provision allowed for the participation of private entities in the oil industry through the route of association agreements between PDVSA and its subsidiaries on the one hand and the private entities on the other, provided the associations had received the prior authorization of the Venezuelan Congress.[8] PDVSA was thus responsible for the exploration and development of the untapped EHCO reserves. However, it seems that the Government of the Bolivarian Republic of Venezuela ("Government" or "Venezuela") and PDVSA were unsuccessful in fully exploiting these vast reserves, presumably because they lacked the financial and technical resources to do so on their own.

13. Thus, in the 1990s, in the face of declining oil production, Venezuela once again invited the Claimants and other foreign oil companies to enter into joint ventures for developing the EHCO reserves located in Venezuela's Orinoco Oil Belt. Attracting foreign investment to the Orinoco Oil Belt was not without its difficulties, particularly because of the nationalization in 1975. Foreign investors had concerns about another nationalization, expropriation or capricious State conduct more broadly, as well as the magnitude of the technical and commercial risks posed by the Projects.[9]

14. In order to allay the foreign investors' concerns, the different constituencies of the Government, including the Ministry[10], provided investors with financial incentives to make their investments more attractive commercially. These incentives included a reduced income-tax rate and a reduced royalty, along with other legal protections against Government measures that might harm the investments. This became known as the "Oil Opening" (or "*Apertura Petrolera*") in Venezuela. The legal basis of the

Executive shall expire on December 31, one thousand nine hundred seventy five"); see also, SoD, § 35; R-PHB, § 11.

[7] 1975 Nationalization Law, **C-7/R-278,** Article 6.

[8] 1975 Nationalization Law, **C-7/R-278,** Article 5.

[9] SoC, §§ 41 ff.

[10] Initially known as the Ministry of Energy and Mines, in 2005, it was renamed the Ministry of Energy and Petroleum. In 2007, it was renamed again as the People's Ministry of Energy and Petroleum. In 2011, the People's Ministry of Energy and Petroleum was renamed again as the People's Power Ministry of Oil and Mining. For ease of reference, all references herein are to the "Ministry".

Apertura Petrolera was Article 5 of the 1975 Nationalization Law, as mentioned above.[11]

15. The Venezuelan Congress formed a Bicameral Commission[12] to define the structure and fiscal incentives for all foreign investment in the Orinoco Oil Belt. In 1993, the Bicameral Commission issued a report making a number of recommendations for attracting foreign investment to the Orinoco Oil Belt.[13] In a nutshell, the 1993 Bicameral Commission PDVSA Report identified three elements necessary to induce foreign private investment for the development of the Orinoco Oil Belt: (a) lower taxes, and in particular exempting the Orinoco Oil Belt associations from the 67.7% income tax rate that applied to PDVSA and instead applying the much lower corporate income tax rate; (b) lower royalty rates for the early years of the associations' operations; and (c) foreign majority ownership of the associations.

16. Over the following years, the Venezuelan Congress implemented the recommendations of the Bicameral Commission. The key fiscal measures enacted and implemented by the Congress were as follows:

(i) Revision of the income tax law whereby the associations in the Orinoco Oil Belt were subjected to a 34% corporate income tax rate that was applicable generally to any other industry and commercial activity in Venezuela, as opposed to the income tax rate of 67.66% that was otherwise applied to companies engaged in the hydrocarbons industry.[14]

(ii) Revision of the royalty rates, whereby associations would now pay the Government a reduced royalty of 1% from the commencement of commercial production until the earlier of: (a) 9 years from such commencement; or (b) the time when the project had accrued sales income three times in excess of the total investment made in development of the project. Upon expiration of

---

[11] *Supra,* § 12.

[12] The full title of the Bicameral Commission was the "Bicameral Commission for the Study of the Strategic Associations of PDVSA concerning the Projects Maraven-Conoco and Maraven-Total-Itochu-Marubeni for the Exploitation and Upgrading of Extra-Heavy Petroleum of the Orinoco Oil Belt" ("Bicameral Commission").

[13] Report Approved by the Bicameral Commission for the Study of the Strategic Associations of PDVSA concerning the Projects Maraven-Conoco and Maraven-Total-Itochu-Marubeni for the Exploitation and Upgrading of Extra-Heavy Petroleum of the Orinoco Oil Belt, 12 August 1993, **C-22** ("1993 Bicameral Commission PDVSA Report").

[14] Law Partially Reforming the Income Tax Law, Extraordinary Official Gazette No. 4,300, published on 13 August 1991 ("1991 Income Tax Law"), **C-15**, Articles 7 and 30; Decree Reforming the Income Tax Law, Decree No. 188, Extraordinary Official Gazette No. 4,727, published on 27 May 1994 ("1994 Income Tax Law"), **C-29**.

the 1% royalty holiday, royalties were to be paid at the generally applicable rate of 16.66%.[15]

17. Moreover, in accordance with the requirements of Article 5 of the 1975 Nationalization Law, the Venezuelan Congress also authorized the Petrozuata Project[16] and the Hamaca Project.[17] The Congressional Authorizations stipulated the conditions based on which the Parties would negotiate the terms of the association agreements for the Petrozuata and Hamaca Projects. Pertinently, these conditions recognized that the Government would retain the power to enact measures in respect of the Projects as it thought fit, and the Government's power in this regard would not be limited in any manner. However, in order to safeguard the foreign investors' interests, these conditions provided for indemnification by the concerned PDVSA Subsidiary against such measures/actions adopted by the Government which had an unjust and discriminatory effect on the Projects' cash flows and for the submission of all disputes arising out of the association agreements to arbitration.[18]

18. It was against this backdrop that the Parties negotiated the association agreements for the Petrozuata and Hamaca Projects. The Claimants assert that the aforesaid fiscal incentives i.e., the income tax and royalty reductions, were instrumental in inducing their investment and in enabling them to secure financing for the Projects.

19. On 10 November 1995, the Petrozuata Association Agreement ("Petrozuata AA") was concluded between PDVSA Petróleo (a subsidiary of PDVSA) and CPZ, establishing the corporate structure for the Petrozuata Project.[19] On the same date, PDVSA executed the Petrozuata Guaranty[20] in favor of CPZ, essentially guaranteeing observance of the obligations assumed by PDVSA Petróleo in the Petrozuata AA.

20. In the Claimants' words, the objective of the Petrozuata Project was:

---

[15] Royalty Agreement of the Strategic Associations of the Orinoco Oil Belt between the Ministry of Energy and Mines and PDVSA Petróleo of 29 May 1998 ("Royalty Reduction Agreement"), **C-67**, Clause 5.

[16] Petrozuata Congressional Authorization, **R-10/C-25**.

[17] First Hamaca Cogressional Authorization, **R-11/C-59.** The Petrozuata Congressional Authorization and the First Hamaca Congressional Authorization are jointly referred to as "the Congressional Authorizations".

[18] Petrozuata Congressional Authorization, **C-25**, Sixteenth Condition and Twenty Third Condition; First Hamaca Congressional Authorization, **C-59**, Twenty First Condition and Twenty Second Condition.

[19] The Claimants describe the Project structure as follows: "The Project was structured through an incorporated joint venture, Petrozuata C.A., formed by CPZ and PDVSA Petróleo. CPZ owned 50.1 percent of Petrozuata C.A. in the form of "Class B Shares," and PDVSA Petróleo owned the remaining 49.9 percent in the form of "Class A Privileged Shares." Each shareholder appointed two directors to the Board of Directors, PDVSA Petróleo appointed the President of Petrozuata C.A., while the General Manager was appointed by CPZ" (Request, § 44).

[20] Petrozuata AA, **C-1**, Exhibit P; Petrozuata Guranty, **C-2**.

> [T]o produce, transport and upgrade extra-heavy crude oil, and to market and sell the resulting syncrude as well as other by-products. Under a separate Offtake Agreement between ConocoPhillips and Petrozuata C.A., the majority of the syncrude produced and upgraded by the Petrozuata Project would be refined at ConocoPhillips's Lake Charles Refinery in Louisiana. Billions of dollars were invested into the venture in Venezuela, including construction of upgrader facilities and pipeline infrastructure beginning in 1997. In 1998, ConocoPhillips invested an additional several hundred million dollars to modify its Lake Charles Refinery to enable it to process the Petrozuata syncrude.[21]

21. It seems that the start of the Petrozuata Project was very successful and full syncrude production started in April 2001, thereby triggering the initiation of the 35-year production life of the Petrozuata AA and commencing the nine-year period during which the 1% royalty rate would apply under the Royalty Reduction Agreement.[22]

22. Similar to the Petrozuata Project, the Hamaca Association Agreement was concluded on 9 July 1997 ("Hamaca AA")[23] between CPH and Corpoguanipa, in addition to two other foreign investors.[24] The Hamaca Guarantee was concluded on the same date.[25] The commercial production of syncrude from the Hamaca Project began 7 years later, in October 2004.

23. Pertinently, the final text of the Hamaca AA was also approved by the Venezuelan Congress by way of another Congressional Authorization on 11 June 1997.[26] Both the Petrozuata AA and the Hamaca AA incorporated provisions which obligated the concerned PDVSA Subsidiary to indemnify the concerned Claimant against any "Discriminatory Actions" by the Government, as defined in the AAs.[27] In a nutshell, these provisions stipulate that in the event a particular measure/action by the Government is unjust and discriminatory (as these terms have been defined in the AAs) and adversely affects the cash flows of the Project, the Claimants will be entitled to receive compensation from the Respondents for the effects of such measures/actions.

---

[21] Request, § 46.

[22] Petrozuata AA, **C-1**; Section 12.01(a); Royalty Agreement of the Strategic Associations of the Orinoco Oil Belt between the Ministry of Energy and Mines and PDVSA Petróleo of 29 May 1998 ("Royalty Reduction Agreement"), **C-67**, Clause 5.

[23] Hamaca AA, **C-3**.

[24] i.e., Arco Orinoco Development Inc. (a subsidiary of Atlantic Richfield Company) and Texaco Orinoco Resources Company (now a subsidiary of Chevron Corporation). ARCO later left the Project.

[25] Hamaca Guarantee, **C-4**.

[26] Second Hamaca Congressional Authorization, **C-62**.

[27] These provisions are referred to as the "Discriminatory Action provisions".The relevant provisions of both AAs concerning Discriminatory Actions or DAs are set out in full at *infra*, §§ 100-109. In this Award, the Tribunal shall refer to the concerned Governmental measures as Discriminatory Actions or DAs interchangeably.

24. In December 1998, Hugo Chávez was elected President of Venezuela. As part of his so-called "Bolivarian Revolution", he immediately expressed his dislike for the *Apertura Petrolera*. Therefore one of Chávez's main goals became the reform of the oil industry and the securing of this resource for the benefit of Venezuela and its people.

25. As a first step, in 2001 President Chávez enacted the 2001 Hydrocarbons Law which made certain changes to the regime that had previously existed under the 1943 Hydrocarbons Law and the 1975 Nationalization Law.[28] This law purportedly provided the substratum on which several measures came to be passed in later years, all of which altered the fiscal incentives that had been extended to the EHCO projects. At the same time, it appears that the Chávez Administration also started taking steps to increase their control over PDVSA.

26. Opposition to this and other proposed reforms lead to political strife, including a failed *coup d'état* against President Chávez in April 2002 and a PDVSA strike in December 2002,[29] which was brought to an end in February 2003 with the removal of over 18,000 PDVSA employees (about 1/3rd of PDVSA's workforce). Subsequently, in 2004, in an unprecedented move, President Chávez appointed Mr. Ramírez as the President of PDVSA as well as the Minister of Energy and Mines.[30]

27. The Government subsequently adopted a series of measures which culminated in the nationalization of the Claimants' investment in May 2007, following the passing of the 2007 Nationalization Decree a few months earlier. In particular:

(i) In October 2004, the Government abrogated the Royalty Reduction Agreement, which resulted in an increase of the royalty rate applicable to the Projects from 1% to 16.66% ("Royalty Measure");[31]

---

[28] Organic Law of Hydrocarbons, Official Gazette No. 37,323, published on 13 November 2001 ("2001 Hydrocarbons Law"), **C-88.**

[29] *Venezuela's Orinoco Syncrude Projects Back Online,* REUTERS, 28 February 2003, **C-99**; Juan Forero, *Venezuela's Lifeblood Ebbs Even as it Flows*, NEW YORK TIMES, 26 February 2003, **C-98**.

[30] In order to achieve this dual appointment, the Articles of Incorporation and By-laws of PDVSA were amended by a Presidential Decree. See Partial Amendment of Decree No. 2184 of 10 December 2002, containing the By-laws of Petróleos de Venezuela, S.A., Official Gazette No. 38,081, published on 7 December 2004, **C-112**, Article 2; Reprint of Decree No. 3264 Appointing Rafael Ramírez as President of PDVSA, issued on 22 November 2004, Official Gazette No. 38,081, published on 7 December 2004, **C-113**.

[31] 8 October 2004 Letter from Minister Ramírez to PDVSA President Rodríguez, **R-12**.

(ii) In May 2006, the Government introduced a tax which had the effect of further increasing the royalty rate applicable to the Projects to 33.33% ("Extraction Tax");[32]

(iii) In October 2006, the Government enacted a law, pursuant to which the income tax rate for EHCO projects was increased from 34% to 50% ("2006 Income Tax Law");[33]

(iv) In February 2007, the Government enacted a decree, which nullified the rights of all existing associations and required their migration to *empresas mixtas* or mixed enterprises which were at least 60% owned by PDVSA or any other affiliate designated by PDVSA ("2007 Nationalization Decree").[34]

(v) In May 2007, in light of the Claimants' inability to reach a consensus with the Respondents on the migration of the Projects to mixed enterprises, the Claimants were dispossessed of their full interest in the Projects pursuant to the 2007 Nationalization Decree.

28. The Claimants consider that the aforesaid measures were a series of co-ordinated steps formulated jointly by the Respondents and the Government with the express objective of taking the Projects and burying the *Apertura Petrolera*, which was described by President Chávez in a speech given in 2007 ("Chávez's 2007 speech") as "nothing other than a great project for giving the country away, for giving away this gigantic resource".[35] The abovementioned qualified measures were in turn described in Chávez's 2007 speech in the following terms:

> [I]n 2004, within this process of progressive recovery of oil sovereignty, on 11 October 2004, we restored the amount of the royalty for the hydrocarbons in the Belt, that is, to what they paid in other areas, 16.66%. […] This was the first measure that we took, in the Belt [...] This measure of taking the royalty from 1% to 16.66%, […] meant, every year, an additional collection of US$1.9 billion, take note so that we are adding this all up here, US$1.9 billion, which before, they were taking away, not anymore, now that the Taxman has come. Step one.

---

[32] Law of Partial Reform of Decree No. 1.510 with Force of Organic Law of Hydrocarbons, Official Gazette No. 38.443, published on 24 May 2006 ("Extraction Tax"), **R-15**.

[33] Law Partially Reforming the Income Tax Law, Official Gazette No. 38,529, published on 25 September 2006 ("2006 Income Tax Law"), **C-145**.

[34] Decree Having the Rank, Value and Force of Law of Migration to Mixed Companies of the Association Agreements of the Orinoco Oil Belt, as well as the Risk and Profit Sharing Exploration Agreements, Decree No. 5,200, Official Gazette No. 38,632, published on 26 February 2007 ("2007 Nationalization Decree"), **C-166.**

[35] Transcript of Aló Presidente Nº 288: From the Orinoco Oil Belt, Hugo Chávez Frías, President of the Bolivarian Republic of Venezuela, 29 July 2007 (transcript available from Servicio TvPrensa) ("Chávez 2007 Speech"), **C-197.**

> Step two: on June 24 of the next year, 2005, we set the royalty at 30% on excess production here in the Belt, because they were producing above what had been established, so we said, well, 16.6 for the production established in the agreements, in the old agreements. But since the new petroleum Law that we passed in 2001 established an oil Royalty not of 16.6 but 30%, which is a fair royalty, so then we said, you pay me the excess at 30% according to the new Law. Well, do you know how much this is equivalent to in royalty income, income in addition to the previous income, the US$1.9 billion? Add it to the US$1.9 billion, an additional US$1.6 billion, every year. […]
>
> Step three: in May 2006, one year later, we imposed the extraction tax to take the royalty and make it equal to thirty-three and one third percent, that is, 33.3%, to equal the royalty, level it out for all of the oil projects in the country, that they would pay so that we would do away with these differences, where one might pay 16.6, others 30, no 33.3%. The extraction tax, this increased tax collection by an additional $400 million a year. How much is that? $3.5 billion+ $400 million, $3.9 billion a year. […]
>
> Step four: October 2006, it was established[,] because this is something else, the Income Tax, which is another tax on profits, on income, they paid tax on non-petroleum income, although they were taking oil[,] they paid the tax that everybody pays who works with rocks, who works with paper, the normal tax[,] when we know that the Oil Income Tax is a special tax because oil yields a lot of income, even more in the last few years with the recovery of oil prices. Well, we took the oil tax to what [the] Law says, 50%, they were paying 34[,] […] Do you know how much that represented in additional annual revenues? US$1.1 billion more. How much are we up to [now]? Five billion dollars from only four legislative measures. […]
>
> Well, we're up to five [billion], and, step five, on February 26, 2007, the nationalization of these companies was established by Decree [5.200], in the Orinoco [Oil] Belt, the old companies that were in the hands of the [multinational companies], and PDVSA had an interest, but a minority interest, PDVSA, we have recovered or have gone into these four companies, Petroanzoátegui, Petromonagas, Petropiar, and Petrocedeño, the former Sincor, Ameriven [Hamaca], Petrozuata, and Cerro Negro, PDVSA held an average 40% of the stock, we received the profits in proportion to or the profits in proportion to that 40%. Now[,] we've gone from 40 to 78%, almost double, therefore, almost 80%, that represents more income for the country. Collection of revenues by this measure increased US$800 million a year in addition in the revenue collection, in total, because of these five measures for recovering sovereignty, we've recovered public revenues of US$5.8 billion. That's equivalent, at the current exchange rate, to 12.18 trillion bolivars.[36]

29. According to the Claimants, these qualified measures attract, first of all, the Respondents' obligation to compensate them under the Discriminatory Action provisions of the AAs; and, second and independently, the Respondents' civil liability under Venezuelan law for willful breach of the AAs, as a result of their active participation in formulating and procuring the measures that resulted in the Claimants' ultimate dispossession.[37]

30. It is thus these qualified measures and in particular the nationalization of the Claimants' interests in the Projects that lies at the heart of the present dispute.

[36] Chávez 2007 Speech, **C-197**, pp. 8-10, footnotes omitted.

[37] SoC, Section IV.

C. PROCEDURAL HISTORY

1. Initiation of the Arbitration, constitution of the Tribunal and the appointment of the Secretary

31. On 10 October 2014, the Claimants submitted the Requests for Arbitration ("Requests") against the Respondents.

32. On 5 February 2015, the Respondents submitted their Answer ("Answer").

33. The co-arbitrators nominated by the Parties were confirmed on 6 February 2015 by the Secretary General pursuant to Article 13(2) of the ICC Rules:

- Laurent Aynès, as co-arbitrator upon the Claimants' joint nomination.
- Andrea Giardina, as co-arbitrator upon the Respondents' joint nomination.

34. On 27 March 2015, pursuant to Article 13(2) of the ICC Rules, the Secretary General confirmed Dr. Laurent Lévy as President of the Arbitral Tribunal upon the joint nomination of the co-arbitrators.

35. On 1 April 2015, the President of the Tribunal confirmed to the Parties that the Tribunal was duly constituted and issued some initial procedural directions in this arbitration.

36. On 9 April 2015, the President of the Tribunal circulated for the Parties' comments the draft Terms of Reference ("ToR") and a draft Procedural Order No.1 ("PO 1"). The President further informed the Parties of the Tribunal's intention to appoint Ms. Eva Kalnina as the Secretary of the Tribunal and also indicated the scope of her duties in this capacity.

37. In their respective communications of 14 and 17 April 2015, the Claimants and the Respondents provided their observations on the draft ToR and PO1. They also consented to the Tribunal's proposal to appoint Ms. Eva Kalnina as the Secretary of the Tribunal.

38. On 20 April 2015, the President of the Tribunal informed the Parties of its proposal to hold an in-person first procedural meeting on 12 June 2015 in New York, subject to substitution by a telephone conference, if the outstanding issues did not justify the expenses involved for an in-person meeting. The Parties confirmed their availability to attend the meeting by their emails of 20 and 21 April 2015.

39. On 21 May 2015, the ICC Court extended the time limit for establishing the ToR until 31 July 2015 (Article 23(2)).

40. On 12 June 2015, the Tribunal and the Parties signed the ToR during the first procedural meeting which took place in person in New York.

2. The Written phase

41. In the course of this arbitration, the Parties filed several written submissions as well as exhibits, witness statements and expert reports. On its part, the Tribunal issued a number of procedural rulings. Some of these submissions and rulings are summarized below:

- On 10 October 2014, the Claimants submitted their Requests.
- On 5 February 2015, the Respondents submitted their Answer.
- On 12 June 2015, an in-person case management conference was held in New York (USA) during which the Parties and the Tribunal signed the ToR.
- On 15 June 2015, the Tribunal issued PO 1.
- On 17 July 2015, pursuant to the directions in PO 1, the Claimants filed the Statement of Claim along with accompanying exhibits, witness statements, expert reports and legal authorities ("SoC").
- On 12 February 2016, pursuant to the directions in PO 1, the Respondents filed their Statement of Defense, along with accompanying exhibits, witness statements, expert reports and legal authorities ("SoD").
- In their communications of 23 February 2016, pursuant to the directions of the Tribunal, the Parties set out their respective positions regarding possible bifurcation of the proceedings, prior to the case management conference (the "CMC") scheduled for 24 March 2016.
- Between 3 and 17 March 2016, parties exchanged their submissions/observations regarding bifurcation and document production.
- On 24 March 2016, at 4 pm CET, the Tribunal and the Parties held the CMC to discuss the outstanding issues pertaining to bifurcation and document production. At the CMC, after considering the Parties' submissions in that regard, the Tribunal

denied the Respondents' request for bifurcation. The Tribunal also heard the Parties' submissions on document production, but reserved its decision on the disputed issues.

- On 8 April 2016, the Tribunal issued Procedural Order No. 2 ("PO 2"), setting out its decision on Parties' request for production of documents.
- On 4 May 2016, the Respondents complained of purported deficiencies in the Claimants' document production and requested the Tribunal to order the Claimants to complete their production of documents. On 6 May 2016, the Tribunal granted the Claimants time until 20 May 2016 to comment on the Respondents' allegations.
- On 20 May 2016, the Claimants provided their reply to the Respondents' application of 4 May 2016, denying that their document production had been deficient in any respect and requesting that the Tribunal deny the Respondents' request.
- On 27 May 2016, the Tribunal issued certain directions regarding the Respondents' application of 4 May 2016.
- On 27 May 2016, pursuant to PO 1, the Claimants filed their Reply and Defense to Counterclaim, along with accompanying witness statements, expert reports, exhibits and legal authorities ("Reply").
- On 2 June 2016 and 8 June 2016, in furtherance to the Tribunal's directions of 27 May 2016, the Parties made additional submissions concerning document production.
- On 14 June 2016, the Parties informed the Tribunal of their agreement to hold the full merits hearing in Washington D.C. as opposed to New York. The Tribunal accepted the Parties' proposal.
- On 1 July 2016, the Tribunal issued Procedural Order No. 3 ("PO 3"), deciding the Respondents' application of 4 May 2016 concerning the Claimants' document production.
- On 9 September 2016, the Respondents submitted their Rejoinder, along with accompanying witness statements, expert reports, exhibits and legal authorities ("Rejoinder").

- On 4 October 2016, following a pre-hearing telephone conference held on 3 October 2016, the Tribunal issued Procedural Order No.4 ("PO 4"), which contained its decision and instructions on various issues relevant to the upcoming hearing in the matter.

- On 7 October 2016, pursuant to the directions in PO 4, the Claimants submitted certain additional exhibits on which they intended to rely at the hearing. On 13 October 2016, the Respondents objected to the production of two of the additional documents, i.e. two presentations regarding the Petrozuata and Hamaca Projects prepared by the Respondents, which had been previously produced in the ICSID proceedings. Accordingly, on 17 October 2016, the Claimants applied to the Tribunal for leave to introduce these contested documents into the record.

- On 1 November 2016, having gone through the Parties' submissions on the Claimants' application, the Tribunal decided to allow the Claimants to introduce the contested documents into the record.

- On 2 November 2016, pursuant to PO 4 and the Tribunal's correspondence of 1 November 2016, the Parties filed their additional exhibits.

- On 23 November 2016, the Claimants sought the Tribunal's permission to introduce three additional exhibits, which had become publicly available only after the previous deadline stipulated by the Tribunal. On 25 November 2016, the Respondents objected to the Claimants request. On the first day of the evidentiary hearing ("Hearing") on 28 November 2016, the Tribunal allowed the Claimants to refer to the new documents during the course of their opening submissions, but otherwise reserved its decision on admitting these three documents into the record.

3. The Oral phase

42. The Hearing was held at the ICSID facilities in Washington D.C., USA from 28 November 2016 to 10 December 2016. In addition to the members of the Tribunal and the Secretary, the following persons attended the Hearing:

For the Claimants:

Mr Jan Paulsson
Mr Luke Sobota

Mr Hugh Carlson
Mr Josh Simmons
Mr Ben Jones
Ms Kelly Renehan
Ms Jacqueline Argueta
Mr Mihir Chattopadhyay
Three Crowns, LLP
2001 Pennsylvania Avenue, N.W.
11th Floor
Washington, D.C. 20005
United States of America

Mr Constantine Partasides, QC
Ms Lucy Martinez
Mr Anish Patel
Three Crowns, LLP
New Fetter Place
8 - 10 New Fetter Lane
London, EC4A 1AZ
United Kingdom

Mr D. Brian King
Mr Elliot Friedman
Mr Sam Prevatt
Mr Lee Ronvinescu
Ms Madeline Snider
Mr Israel Guerrero
Freshfields Bruckhaus Deringer, LLP
520 Madison Avenue
34th Floor
New York, New York 10022
United States of America

Ms Janet Langford Carrig
Ms Laura Robertson
Mr Alberto Ravell
Mr Fernando Avila
ConocoPhillips Petrozuata B.V.

For the Respondents:

Mr George Kahale, III
Mr Bernard V. Preziosi
Mr Simon Batifort
Mr Borzu Sabahi
Ms Arianna Sanchez Galindo
Mr Enrique José Urdaneta Cordido-Freites
Mr Matthew Disler
Ms Maria Acosta
Mr Farshad Zahedinia
Ms Sofia Herrera
Ms Gloria Diaz-Bujan
Mr Michael Ward
Curtis, Mallet-Prevost, Colt & Mosle, LLP
101 Park Avenue
New York, New York 10178
United States of America

Mr Eloy Barbara de Parres
Ms Dori Yoldi
Ms Matilde Flores
Curtis, Mallet-Prevost, Colt & Mosle, SC
Rubén Darío 281, Piso 9
Col. Bosque de Chapultepec
11580 México, D.F.
México

Mr Tullio Treves
Ms Irene Petrelli
Curtis, Mallet-Prevost, Colt and Mosle LLP
3 Corso Matteotti
20121 Milano
Italy

43. In the course of the Hearing, the Tribunal heard evidence from the following witnesses and experts:

For the Claimants:

- **Mr. Ray Manning,** the then Director of Contracts and Negotiations for Worldwide Exploration of Claimant No.1 and their lead negotiator for the Hamaca AA.
- **Mr. Robert Heinrich,** who was part of Claimant No.2's negotiation team for the Petrozuata AA and from 2004 to 2007 served as a Board member of the Project companies i.e., Petrozuata C.A. and Hamaca JVC.
- **Mr. Henry S. van Wageningen,** who was a member of Claimant No.2's negotiating team for agreements pertaining to the Petrozuata Project and also Claimant No.2's lead drafter of the key Project documents.
- **Mr. David Brown,** presently the Technology Program Manager, Heavy Oil & Oil Sands at ConocoPhillips, who reviewed the preparation of the oil production profiles for the Petrozuata and Hamaca Projects which form the basis of the quantum report.
- **Prof. Allan Brewer-Carías,** a Venezuelan qualified lawyer whose practice areas include public, constitutional and administrative law and who has provided his legal opinion on issues that pertain to these areas of law in the present arbitration.
- **Prof. David R. Mares,** who is a political scientist with a special focus on Latin America and Energy studies.
- **Prof. Gustavo Mata Borjas,** a Venezuelan qualified lawyer, whose areas of practice are primarily civil and corporate law.
- **Dr. Richard F. Strickland** is the Claimants' expert in relation to issues concerning production volumes. In particular, he addresses the production forecasts proposed by the Respondents' expert Mr. Patino.
- **Mr. Neil K. Earnest** is the Claimants' expert for various downstream issues concerning the Hamaca and Petrozuata upgraders, relevant for the purposes of determining production volumes as well as costs.
- **Dr. Manuel A. Abdala,** the Claimants' quantum valuation expert.

For the Respondents:

- **Mr. Rubén Figuera,** who has at different points of time between 2005 and 2007 acted as the President of the operating companies of the Petrozuata and Hamaca Projects. He is also the Respondents' fact witness for oil production and project costs issues for the purposes of their quantum analysis.

- **Dr. Bernard Mommer,** who between 2005 and 2008 served as the Vice Ministry of Hydrocarbons in the Ministry and was the primary governmental official dealing with the foreign oil companies operating in Venezuela at the relevant time.
- **Prof. Luis Alberto García-Montoya**, a Venezuelan qualified lawyer whose areas of practice are primarily civil, commercial and corporate law.
- **Prof. Louis T. Wells**, a former Professor who has significant experience in advising various governments on the development of minerals policy, negotiation, renegotiation and administration of mineral related agreements.
- **Mr. Jesús Rafael Patiño Murillo,** the Respondents' expert for determining production volumes achieved by the Projects applying the but-for test.
- **Mr. Vladimir Brailovsky and Dr. Daniel Flores,** the Respondents' quantum valuation experts.

44. A verbatim transcript of the Hearing was taken and distributed to the Parties and the Tribunal at the end of each day.

45. On 10 December 2016, the Tribunal closed the proceedings in accordance with Article 27 of the ICC Rules.

4. The Post-Hearing phase

46. On 14 December 2016, the Tribunal issued Procedural Order 5 ("PO 5"), setting out further procedural steps to be taken by the Parties, as well as the timeline for filing their post-hearing briefs ("PHBs") and cost statements.

47. On 12 and 13 December 2016, the Respondents and the Claimants respectively, submitted the additional exhibits which they had referred to/introduced during the course of the Hearing.

48. On 17 December 2016, pursuant to the directions in PO 5, the Respondents sought the Tribunal's permission to introduce certain new exhibits into the record. In light of the fact that the Claimants did not raise any objections to same, the Tribunal permitted the Respondents to introduce these new exhibits on 22 December 2016.

49. On 23 December 2016, the Tribunal raised various questions in connection with the matters argued during the Hearing and invited the Parties to address them in their PHBs.

50. On 20 March 2017, the Parties filed their respective PHBs ("C-PHB" and "R-PHB" respectively).

51. On 17 April 2017, both Parties filed their respective Statements of Costs. On 27 April 2017, the Respondents submitted an updated/amended Statement of Costs and also provided their responses to certain clarification sought by the Claimants. On 16 June 2017 and 28 June 2017, the Claimants filed an updated Statement of Costs.

52. In accordance with Article 36 of the ICC Rules, on 12 March 2015, the ICC Court had fixed the advance on costs at USD 650,000. On 3 September 2015, the ICC Court readjusted and increased the advance on costs to USD 1,350,000. On 8 September 2016, the ICC Court readjusted and increased the advance on costs to USD 2,060,000. On 11 May 2017, the ICC Court once again readjusted and increased the advance on costs to USD 2,620,000. On 5 January 2018, pursuant to Prof. Giardina's request for such payment of 29 December 2017, the ICC Secretariat requested the Parties to pay further advances of USD 290,710 (to be shared equally) towards the "Mandatory Contribution to the Lawyers Fund" ("MCLF Advance") payable to Prof. Giardina. As discussed in more detail in Section V below, not all of the aforesaid amounts have been paid by the Parties in equal shares. Finally, on 16 February 2018, the ICC Court increased the advance on costs from USD 2,620,000 to USD 3,150,000.

53. Further, in accordance with Article 30(1) of the ICC Rules, the time limit for rendering the final award was 6 months from the date of the last signature of the ToR, namely, at 12 December 2015. Since then, and in accordance with Article 30(2) of the ICC Rules, the ICC Court extended this time limit as follows:

- At its session of 2 July 2015, to 28 February 2017 (the Secretariat's letter of 2 July 2015);
- At its session of 16 February 2017, to 30 June 2017 (the Secretariat's letter of 24 February 2017);
- At its session of 22 June 2017, to 31 January 2018 (the Secretariat's letter of 29 June 2017);
- At its session of 18 January 2018, to 30 March 2018 (the Secretariat's letter of 29 January 2018);

- At its session of 15 March 2018, to 30 April 2018 (the Secretariat's letter of 16 March 2018);
- At its session of 19 April 2018, to 31 May 2018 (the Secretariat's letter of 20 April 2018).

II. POSITIONS OF THE PARTIES AND RELIEF REQUESTED

54. The Parties' arguments in so far as they are relevant and necessary to resolve the issues in dispute have been reproduced prior to the Tribunal's analysis of each disputed issue. For the sake of clarity, the Tribunal emphasizes that it has not provided a summary of each specific argument raised by the Parties in their submissions, as it would be both repetitive and unnecessary. The Tribunal has reproduced only what it views as the most important arguments for its decision. Even if not explicitly reproduced, the Tribunal has considered all of the Parties' arguments.

A. THE CLAIMANTS' POSITION AND REQUEST FOR RELIEF

55. In the ToR, the Claimants summarized their position as follows:

> Under the Association Agreements, the Claimants performed their part of the bargain: their large investments of money, technology and know-how succeeded in creating highly profitable joint ventures, which in 2007 still had approximately 30 years to run. By contrast, once the Projects were constructed and online as a result of the Claimants' performance, Respondents in bad faith breached their commitments in the Association Agreements and the Guarantees. They worked with the Government systematically to dismantle the financial, contractual, and legal protections of the Projects, resulting finally in the expropriations of 2007. This arbitration is thus brought to recover the amounts due to the Claimants arising from Respondents' breaches of their obligations under the AAs (including the duty of good faith and fair dealing), the Guarantees, and Venezuelan law, and alternatively to determine the amounts due to the Claimants under the indemnification formulae in the AAs.[38]

56. The Claimants first submit that, as part of the Government's attempt to attract foreign investment in the framework of the *Apertura Petrolera*, it sought to come up with a number of incentives and protections, all of which were documented through different instruments, including in the form of reductions to the applicable income tax and royalty rates.[39]

[38] ToR, § 34.

[39] *Supra*, § 16.

57. They note that it was PDVSA that directly encouraged and coordinated with the Government a "suite of fiscal incentives"[40] to encourage CPZ and CPH to invest in the Petrozuata and Hamaca Projects respectively. It was PDVSA's efforts that ultimately led to four critical elements of the Projects being adopted: (a) the income tax reduction; (b) the royalty reduction; (c) contract protections; and (d) legislative approval of the framework of conditions for the Projects.[41]

58. The Claimants also emphasize that, for example, the income tax reduction was guaranteed by the framework of conditions approved by the Venezuelan Congress[42] whilst the royalty reduction was granted by a formal Royalty Reduction Agreement between the Ministry and PDVSA Petróleo.[43] The same incentives and protections were also embodied in the AAs executed between the Claimants and the PDVSA Subsidiaries, which were also endorsed by the Venezuelan Congress.[44]

59. The Claimants further point out that both AAs establish similar rights and obligations for the contracting parties, one of the key contractual protections being the commitment by the PDVSA Subsidiaries — guaranteed by PDVSA in independent agreements accompanying each of the AAs — to indemnify the Claimants against any "Discriminatory Action" as defined in the AAs.[45] Thus, where there are adverse effects on the Projects' cash flows as specified in the AAs (namely, "Significant Economic Damage" for the Petrozuata Project and "Material Adverse Effect" for the Hamaca Project), the Claimants are entitled to indemnification according to the formulae prescribed in each AA. The Claimants underline that such indemnification is supplemental to any other recourse available to the Claimants.[46]

60. According to the Claimants, the Respondents were initially aligned with them at the time of signing of the AAs and Guarantees and the Claimants expected that they would work in good faith to promote the Claimants' rights and interests in the Associations. All this changed upon President Chávez's rise to power which brought significant transformation to PDVSA and its affiliates and included a political upheaval

[40] SoC, § 52.

[41] SoC, §§ 52-61.

[42] Law Partially Reforming the Income Tax Law, Extraordinary Official Gazette No. 4,300, published on 13 August 1991 ("1991 Income Tax Law"), **C-15.**

[43] Royalty Reduction Agreement, **C-67**.

[44] SoC, § 59; See also, Petrozuata Congressional Authorization, **C-25**; First Hamaca Congressional Authorization, **C-59.**

[45] See *supra,* § 23.

[46] SoC, §§ 59(a), 68(a), 220-232.

as well as a termination of 18,000 managers, engineers and other essential employees of PDVSA in 2003. The Claimants explain that, as part of his Bolivarian Revolution, President Chávez promised to remake a "new PDVSA," and in 2004, Mr. Rafael Ramírez was given the unprecedented role of simultaneously serving as both Minister of Energy and President of PDVSA.[47] The "new PDVSA" soon turned on the Claimants and – in willful breach of their contractual and legal obligations – the Respondents played an instrumental role in devising and implementing a series of measures that first reduced the value of the Claimants' interests in the Projects and ultimately confiscated them altogether.[48]

61. The Claimants argue that PDVSA and its subsidiaries are the direct beneficiaries of the expropriation and have enjoyed billions of dollars in revenues from the full (in the case of Petrozuata) and majority (in the case of Hamaca) interests in the Projects that they illicitly obtained.[49] The Claimants also emphasize that they are yet to receive any compensation for the nationalization of their property from either the Government or the Respondents.[50]

62. More specifically, the Claimants note that, as stated by President Chávez in his 2007 Speech,[51] the "steps" by the Government and PDVSA that led to the dismantling of the *Apertura Petrolera* and their interests in the Projects included the following measures:

i. First, starting in October 2004, the Government, working in coordination with the Respondents, implemented the Royalty Measure, which unilaterally abrogated the Royalty Reduction Agreement and imposed instead a 16.66 % royalty rate — a dramatic increase from the 1% royalty rate that had been promised at the outset of the Projects. Then in May 2006, the Government, again alongside the Respondents, introduced the Extraction Tax which had the equivalent effect of further increasing the royalty rate to 33.33%.

ii. Second, effective 1 January 2007, the Government, with the support of the Respondents, eliminated the income tax regime enacted to induce investment

[47] See Chávez 2007 Speech, **C-197**; C-PHB, §§ 4(a)-(e), 8

[48] SoC, §§ 87, 93-94; C-PHB, §§ 4, 11.

[49] C-PHB, §§ 294-299;

[50] SoC, § 144.

[51] Chávez 2007 Speech, **C-197**.

in the EHCO projects, raising the applicable income tax rate from 34% to 50% (the "Income Tax Increase").

iii. Third and finally, in February 2007, despite having appropriated a substantial amount of the value of the Claimants' interests in the Projects through the abovementioned qualified measures, the Government and the Respondents proceeded with implementation of the ultimate step: seizing control of the operations and assets of the Petrozuata and Hamaca Projects pursuant to the 2007 Nationalization Decree. The Claimants submit that, on 1 May 2007, Respondents, with troops standing by, assumed control over the Projects' operations and that subsequently the Government and Respondents announced to the world that they had expropriated the Claimants' interests in the Projects.[52]

63. As a direct result of these qualified measures, the Claimants claim to have lost the entire value of their investment in the Projects.

64. The Claimants contend that the Respondents took these adverse actions in utter disregard of their legal and contractual obligations to the Claimants under the AAs and the Guarantees. In other words, they played a critical role in bringing about the measures that stripped the Claimants of their rights under the AAs, and effectively appropriated the Claimants' interests in the Projects for themselves.

65. In the Claimants' view, the Respondents' conduct in "procuring and implementing" the qualified measures constitutes a willful breach of their obligations under the AAs, including the duty of good faith and fair dealing. In the alternative, the Claimants argue that interference by the Respondents in the performance of the AAs constitutes a *hecho ilícito* (or tortious interference) under Venezuelan law. In either case, the Respondents must compensate the Claimants for all damages suffered as a result of these breaches, based on the full value of the Claimants' expropriated interests in the Projects.[53]

66. Separately, and in all events, the Claimants contend that the qualified measures give rise to liability on the part of the Respondents under the Discriminatory Action provisions of the AAs which impose an obligation upon the Respondents to indemnify/compensate the Claimants for the effects of any unjust and discriminatory

[52] C-PHB, §§ 287-290; SoC, § 15(c).

[53] C-PHB, §§ 2(b), 12(b), 22-25.

measures adopted by the Government.[54] The Claimants argue that the very purpose of these provisions is to guarantee that they receive contractual indemnification against losses caused by the actions of the Government in accordance with the provisions set forth in the AAs. According to the Claimants, the Respondents are effectively required to act as partial insurers of the Claimants' damages incurred as a result of the Discriminatory Actions.[55] Further, as a guarantor for the PDVSA Subsidiaries under the Guarantees, PDVSA is obliged to ensure payment of compensation by the PDVSA Subsidiaries to the Claimants under the AAs and Venezuelan law.

67. As to the amount of damages, the Claimants allege that under the contractual formulae for Discriminatory Actions, the cumulative damages exceed many billions of US Dollars. In relation to the Respondents' contractual breaches or alternatively *hecho ilícito*, the Claimants claim to have suffered damages in a significantly greater amount.

68. The Claimants also note that, in response to the measures enacted by the Government, they repeatedly communicated their complaints to the Respondents and then pursued the only other practical remedy, ICSID arbitration, against Venezuela for more than seven years. The Claimants underline that Venezuela is not a signatory to the AAs or Guarantees, nor is it a named party to these ICC proceedings, whilst it is the sole respondent in the ICSID Arbitration where its obligations arise under the Dutch-Venezuelan bilateral investment treaty and international law.[56] The Claimants emphasize that as a result of a ruling in the ICSID Arbitration, these ICC proceedings are the only practicable legal recourse for the Claimants' injuries flowing from the Royalty Measure, the Extraction Tax and the Income Tax Increase. In other words, the DA provisions of the AAs provide the Claimants with a further remedy against the actions of the Government, whereby they can seek compensation/indemnity from the Respondents for the effects of DAs adopted by the Government. Relying on these provisions, the Claimants present claims under the DA provisions on the basis of the Income Tax Increase, the Royalty Measure and the Extraction Tax as well as the Expropriation – the latter also being a discriminatory measure adopted by the Government against the Projects – alongside their other claims flowing from the Respondents' breach of their obligations under the AAs.

[54] The Discriminatory Action provisions. The relevant provisions of both AAs concerning Discriminatory Actions are set out *infra*, §§ 100-109.

[55] C-PHB, §§ 13-15.

[56] C-PHB, § 11(l)-(n).

69. Finally, the Claimants have clarified that they do not seek double recovery for the damage suffered. To the extent that they (or related entities) are awarded damages for the same injuries in the ICSID Arbitration and receive payment of such an award, the Claimants affirm that the Respondents will receive an appropriate set-off from their obligations arising from an award in these proceedings, and *vice versa*.[57] The Claimants' submissions on this issue are as follows:

> Accordingly, any monetary reparation (after deduction of legal and expert costs incurred in connection therewith) that the claimants in the ICSID Arbitration may actually recover (*i.e.*, awarded and paid by Venezuela) in that case before recovery in this ICC proceeding will reduce Respondents' liability in respect of the claims asserted in this ICC proceeding (to the extent that such reparation is based on the same actions by the Government and/or PDVSA). The converse is true as well. If Claimants receive payment for damages or in connection with this ICC proceeding and are later awarded monetary reparation in connection with the ICSID Arbitration (to the extent that such damages are based on the same actions by the Government and/or PDVSA), Claimants will reimburse Respondents for the amount that Respondents have paid in this ICC Arbitration, after deduction of Claimants' legal and expert costs, to the extent necessary to prevent double recovery.[58]

70. In their Reply, the Claimants sought the following relief:

> 568. As a consequence of the foregoing, the Claimants respectfully request that the Arbitral Tribunal render an Award:
>
> (a) Declaring that PDVSA Petróleo willfully breached its contractual obligations and duty of good faith owed to CPZ under the Petrozuata Association Agreement, and that PDVSA Petróleo is liable fully to compensate CPZ accordingly, for losses currently estimated to be US$7.02 billion;
>
> (b) Declaring that Corpoguanipa willfully breached its contractual obligations and duty of good faith owed to CPH under the Hamaca Association Agreement, and that Corpoguanipa is liable fully to compensate CPH accordingly, for losses currently estimated to be US$10.87 billion;
>
> (c) Declaring that PDVSA is liable to indemnify CPZ for PDVSA Petróleo's breach of its contractual obligations and duty of good faith owed to CPZ under the Petrozuata Association Agreement, and that PDVSA is liable fully to compensate CPZ accordingly;
>
> (d) Declaring that PDVSA is liable to indemnify CPH for Corpoguanipa's breach of its contractual obligations and duty of good faith owed to CPH under the Hamaca Association Agreement, and that PDVSA is liable fully to compensate CPH accordingly;
>
> (e) Declaring that PDVSA willfully breached its contractual obligations and duty of good faith owed to CPZ under the Petrozuata Guaranty, and that PDVSA is liable fully to compensate CPZ accordingly;

[57] ToR, § 33; SoC, §§ 250-252.

[58] SoC, § 251.

(f) Declaring that PDVSA willfully breached its contractual obligations and duty of good faith owed to CPH under the Hamaca Guarantee, and that PDVSA is liable fully to compensate CPH accordingly;

(g) Declaring that Respondents' integral role in destroying the Claimants' contractual rights constitutes, alternatively, an hecho ilícito under Venezuelan law, and that Respondents are liable to compensate the Claimants accordingly, for losses currently estimated to be US$17.89 billion;

(h) Declaring that the Income Tax Increase constitutes a Discriminatory Action under the Petrozuata and Hamaca Association Agreements;

(i) Declaring that the Expropriation constitutes a Discriminatory Action under the Petrozuata and Hamaca Association Agreements;

(j) Declaring that PDVSA Petróleo is liable to compensate CPZ for the Discriminatory Actions under the terms of the Petrozuata Association Agreement, in an amount currently estimated to be US$2.13 billion;

(k) Declaring that Corpoguanipa is liable to compensate CPH for the Discriminatory Actions under the terms of the Hamaca Association Agreement, in an amount currently estimated to be US$5.18 billion;

(l) Declaring that PDVSA is liable to indemnify CPZ for the Discriminatory Actions under the terms of the Petrozuata Guaranty, in an amount currently estimated to be US$2.13 billion;

(m) Declaring that PDVSA is liable to indemnify CPH for the Discriminatory Actions under the terms of the Hamaca Guarantee, in an amount currently estimated to be US$5.18 billion;

(n) Awarding the Claimants damages for willful breaches or hecho ilícito in the amount currently estimated to be US$17.89 billion, including interest, to be updated closer to the time of the Award;

(o) Awarding the Claimants compensation for Discriminatory Actions in the amount currently estimated to be US$7.31 billion, including interest, to be updated closer to the time of the Award;

(p) Awarding the Claimants post-award compound interest at a rate to be fixed by the Tribunal, to run from the date of Award until the date of full and final payment;

(q) Dismissing Respondents' counter-claim;

(r) Awarding the Claimants their costs and expenses of the arbitration, including those costs set out in Article 37(1) of the ICC Rules;

(s) Declaring that the Award is net of all applicable Venezuelan taxes and any taxes applying under Venezuelan law to the payment of such net amount shall be borne by Respondents, so that the amount effectively received by the Claimants after deduction of all applicable taxes corresponds to the full amount granted by the Tribunal; and

(t) Granting such additional or other relief as may be just under the law.

71. In the C-PHB, the Claimants modified/clarified their reliefs as follows:

1027. As a consequence of the foregoing, Claimants respectfully request that the Arbitral Tribunal render an Award:

(a) Declaring that PDVSA Petróleo willfully breached its contractual obligations and duty of good faith owed to CPZ under the Petrozuata Association Agreement, and that PDVSA Petróleo is accordingly fully liable to compensate CPZ for losses quantified at US$7.02 billion (as of 27 May 2016);

(b) Declaring that Corpoguanipa willfully breached its contractual obligations and duty of good faith owed to CPH under the Hamaca Association Agreement, and that Corpoguanipa is accordingly fully liable to compensate CPH for losses quantified at US$10.87 billion (as of 27 May 2016);

(c) Declaring that PDVSA is liable to indemnify CPZ for PDVSA Petróleo's breach of its contractual obligations and duty of good faith owed to CPZ under the Petrozuata Association Agreement, and that PDVSA is fully liable to compensate CPZ accordingly;

(d) Declaring that PDVSA is liable to indemnify CPH for Corpoguanipa's breach of its contractual obligations and duty of good faith owed to CPH under the Hamaca Association Agreement, and that PDVSA is fully liable to compensate CPH accordingly;

(e) Declaring that PDVSA willfully breached its contractual obligations and duty of good faith owed to CPZ under the Petrozuata Guaranty, and that PDVSA is fully liable to compensate CPZ accordingly;

(f) Declaring that PDVSA willfully breached its contractual obligations and duty of good faith owed to CPH under the Hamaca Guarantee, and that PDVSA is fully liable to compensate CPH accordingly;

(g) Declaring that Respondents' integral role in destroying Claimants' contractual rights constitutes, alternatively, an *hecho ilícito* under Venezuelan law, and that Respondents are fully liable to compensate Claimants accordingly, for losses quantified at US$17.89 billion (as of 27 May 2016) (*i.e.*, the sum total of the amounts identified in paragraphs (a) and (b) above);

(h) Declaring that the Income Tax Increase constitutes a Discriminatory Action under the Petrozuata and Hamaca Association Agreements;

(i) Declaring that the Expropriation, including the value-depressing fiscal measures that preceded it, constitutes a Discriminatory Action under the Petrozuata and Hamaca Association Agreements;

(j) Declaring that PDVSA Petróleo is liable to compensate CPZ for the Discriminatory Actions under the terms of the Petrozuata Association Agreement, in an amount quantified at US$2.13 billion (as of 27 May 2016);

(k) Declaring that Corpoguanipa is liable to compensate CPH for the Discriminatory Actions under the terms of the Hamaca Association Agreement, in an amount quantified at US$5.18 billion (as of 27 May 2016);

(l) Declaring that PDVSA is liable to indemnify CPZ for the Discriminatory Actions under the terms of the Petrozuata Guaranty, in an amount quantified at US$2.13 billion (as of 27 May 2016);

(m) Declaring that PDVSA is liable to indemnify CPH for the Discriminatory Actions under the terms of the Hamaca Guarantee, in an amount quantified at US$5.18 billion (as of 27 May 2016);

(n) Awarding Claimants damages for willful breaches (or *hecho ilícito*) **and** indemnification for Discriminatory Actions in an amount quantified at US$19.23 billion (as of 27 May 2016);

(o) Awarding Claimants compensation for Discriminatory Actions, if the Tribunal finds no breach of Respondents' contractual obligations and duty of good faith under the Association Agreements and Guarantees, in an amount quantified at US$7.31 billion, including interest (as of 27 May 2016) (*i.e.*, the sum total of the amounts identified in paragraphs (j) and (k) above);

(p) Awarding Claimants post-award compound interest at a rate to be fixed by the Tribunal, to run from the date of Award until the date of full and final payment;

(q) Dismissing Respondent Corpoguanipa's counter-claim;

(r) Awarding Claimants the sums they have advanced to the ICC towards the fees and expenses of the arbitrators and the ICC's administrative expenses (as set out in Article 37(1) of the ICC Rules), in an amount to be quantified in Claimants' forthcoming 17 April 2017 submission on costs, in addition to any costs in this regard assessed by the ICC in the future;

(s) Awarding Claimants the reasonable legal and other costs that they have incurred to date in connection with these arbitration proceedings, in an amount to be quantified in Claimants' forthcoming 17 April 2017 submission on costs;

(t) Awarding Claimants interest on the costs identified in sections (r) and (s) above, to be applied as from the date of expenditure;

(u) Declaring that the Award is net of all applicable Venezuelan taxes and that any taxes applying under Venezuelan law to the payment of such net amount shall be borne by Respondents, so that the amount effectively received by Claimants after deduction of all applicable taxes corresponds to the full amount granted by the Tribunal; and

(v) Granting such additional or other relief as may be just under the law.

B. THE RESPONDENTS' POSITION AND REQUEST FOR RELIEF

72. In the ToR, the Respondents summarized the Claimants' case as follows[59]:

> The claims asserted by the Claimants can be divided into two categories: (i) the Claimants seek to hold Respondents responsible for the actions of the Government of the Bolivarian Republic of Venezuela (the "Government" or "Venezuela") in increasing royalties and taxes and nationalizing their interests in two oil projects in the Orinoco Oil Belt known as the "Petrozuata Project" and the "Hamaca Project"; and (ii) if they cannot get what they want in the first category, then the Claimants seek compensation for those governmental actions under the indemnity provisions of the Association Agreements relating to those projects, which were specifically designed to compensate the Claimants for governmental acts affecting their interests in the projects.

73. As to the first category of claims, the Respondents observe that it seeks to hold them liable for allegedly collaborating, participating or assisting in, or implementing, the Royalty Measure, the Extraction Tax, the Income Tax Increase, and the 2007

[59] ToR, § 35.

Nationalization Decree. They argue that these claims are not only unsustainable as a matter of law, but are also non-arbitrable and beyond the jurisdiction of this Tribunal, particularly as the Venezuelan Congress never authorized arbitration of such claims, whether against the parties to the Association Agreements or PDVSA as guarantor, and the scope of the guarantees does not cover such claims.[60]

74. They further submit that what makes the first category of claims – namely, the claims pertaining to willful breach – "truly incomprehensible" is that all parties to the AAs understood very well when they entered into the Projects that the Government may take action adversely affecting the Projects, including fiscal measures and even outright seizure of assets or expropriation. The Respondents emphasize that this was the focal point of the negotiation for the Projects in the 1990s: while the investors were seeking "full compensation" for any adverse governmental action and "fiscal stability", such requests were "flatly rejected" by the Government.[61]

75. As to the second category of the Claimants' claims, the Respondents argue that no compensation is due for acts that do not fall within the definition of Discriminatory Action, as the term is narrowly defined under the AAs. The Respondents point out that according to the Claimants' own characterization of the Royalty Measure and the Extraction Tax as non-Discriminatory Actions, any compensation claim based on those measures should be dismissed. Likewise, compensation should be excluded for the Income Tax Increase, as this too is not a Discriminatory Action.[62]

76. Furthermore, the Respondents also argue that the Claimants have failed to meet the notice requirements of the AAs[63], as well as the requirement to exhaust legal and administrative remedies.[64]

77. Lastly, the Respondents also raise a counterclaim and request a declaration that Corpoguanipa will have the option to purchase Phillips Venezuela's interest in the Hamaca Project in the event of any award of compensation to Phillips Venezuela. In other words, the Respondents are seeking a declaration of the right to exercise the

[60] SoD, §§ 202-205; R-PHB, §§ 337-353.

[61] SoD, §§ 11-13.

[62] SoD, § 290.

[63] Rejoinder, §§ 325 ff; R-PHB, §§ 522-549.

[64] Rejoinder, §§ 349 ff; R-PHB, §§ 550-565.

buy-out option enshrined in Articles 14.4 and 14.5 of the Hamaca AA, which would render moot the claims asserted with respect to that Project.[65]

78. In the Rejoinder and R-PHB, the Respondents provided the following summary of their position and requested the following relief:

VII. Conclusion

A. First Category of Claims

618. As demonstrated in the Statement of Defense and herein, the first category of claims should be dismissed for all of the following reasons: (i) any claim based upon implementation of the concededly sovereign act of nationalization in accordance with Decree-Law 5.200 is non-arbitrable under Venezuelan law and beyond the jurisdiction of this Tribunal; (ii) the "express contractual obligations" now invoked by the Claimants to support their willful breach claim provide no basis for any claim of breach; (iii) the concept of good faith under the Venezuelan Civil Code does not form the basis of any claim under the facts of this case; (iv) compliance with law does not constitute actionable conduct, and a claim for hecho ilícito in any event could not be asserted with a contract claim under the circumstances of this case; (v) the Claimants cannot meet the element of causation essential to any claim for damages for either willful breach of contract or hecho ilícito; and (vi) the Claimants' own conduct leaves no doubt that not even they ever thought that Respondents breached any obligation to the Claimants and precludes the assertion of the claims herein. Each of the foregoing independently warrants dismissal of the first category of claims.

619. Although it should not be necessary to enter into a quantum analysis for the first category of claims, that analysis would yield the conclusion that compensation in any event would be no greater than the amount shown in the table in paragraph 614 above.[66]

B. Second Category of Claims

620. The second category of claims should also be dismissed because they are based on the Compensation Provisions and the Claimants have not complied with the requirements for compensation expressly set forth in those provisions. If such requirements were to be disregarded, the compensation calculation under the Compensation Provisions for the maximum period prescribed in the Petrozuata Association Agreement would be as set forth in the tables in paragraphs 615 and 616 above[67], depending upon whether the maximum period is applied to both Projects or only to the Petrozuata Project. Finally, even if the relevant period for both Projects were to be the entire period from June 26, 2007 to the end of the original terms of the Association Agreements, compensation would not exceed [USD 470.6 million].

C. Counterclaim

[65] SoD, §§ 325-334; Rejoinder, §§ 364-371.

[66] For the referenced table, see Rejoinder, § 614, where the Respondents calculate the maximum compensation due to the Claimants with respect to both Projects in the amount of USD 489 million (without interest).

[67] For the referenced table, see Rejoinder, § 615, where the Respondents calculate the maximum compensation due to the Claimants with respect to both Projects in the amount of USD 153.1 million (without interest).

> 621. The Tribunal should grant the declaratory relief requested in the counterclaim, namely, that Corpoguanipa will have the option to purchase all "rights, titles and interests" of Phillips Venezuela relating to the Hamaca Project at the "Buy-Out Price" defined in the Hamaca Association Agreement, in the event of any award of compensation to Phillips Venezuela.
>
> **D. Costs**
>
> 622. Given (i) the extraordinary delay of the Claimants in bringing these claims after never mentioning them for a decade, (ii) the claims' total lack of merit, including the fact that the Claimants themselves, despite all their bluster about royalty and tax measures, assert no claims of the first category for those measures and, with respect to the second category of claims, actually concede that the first two measures do not constitute "Discriminatory Actions," and (iii) the Claimants' strategy of grossly exaggerating virtually all elements of quantum, while at the same time pretending to be "conservative," all costs of this Arbitration should be assessed against the Claimants (Footnotes omitted).[68]

III. ANALYSIS

79. In this section the Tribunal will assess the Parties' positions and submissions on liability. The positions and arguments of each Party, insofar as they are necessary to resolve the relevant liability issues in dispute, have been reproduced prior to the Tribunal's analysis of each issue. The Tribunal has not provided a summary of each and every submission, argument or objection raised by the Parties. Instead, it has reproduced only what it views as the most important arguments determinant for its decision. However, even if not expressly reproduced, the Tribunal has of course considered and carefully examined all of the Parties' arguments.

A. PRELIMINARY MATTERS

1. Arbitration agreement

80. The jurisdiction of the Tribunal is based on the arbitration agreements contained in the Petrozuata AA, Hamaca AA, the Petrozuata Guaranty and the Hamaca Guarantee.

81. Article 13.16 of the Petrozuata AA provides as follows:

> All disputes arising in connection with the present Agreement shall be finally settled by arbitration under the Rules of Conciliation and Arbitration of the International Chamber of Commerce in accordance with the said Rules. Each side will appoint one arbitrator, and the two arbitrators so appointed will appoint the third arbitrator. If the two arbitrators fail to appoint the third arbitrator within 30 days of their appointment, upon the written request by any Party, the Chairman of the Court of Arbitration of the International Chamber of Commerce will appoint such third arbitrator. The place of arbitration shall be New York,

[68] These conclusions were confirmed by the Respondents in their PHB. See R-PHB, §§ 898-902.

New York, United States of America. The arbitrators shall apply the law of Venezuela to any such controversy or claim. The language of the arbitration shall be English. Any decision or award of the arbitral tribunal (which shall be in writing and contain an explanation as to how it arrived at its decision and award) shall be final and binding on the parties to the arbitration proceeding.

82. Section 4 of the Petrozuata Guaranty provides as follows:

Section 4. Governing Law and Arbitration.

This Guaranty shall be governed by the laws of Venezuela and by generally accepted principles of international law to the extent that such principles do not contradict such laws.

All disputes arising in connection with this Guaranty, or the breach, termination, interpretation, enforceability or validity thereof, shall be finally settled by binding arbitration in New York, New York, USA, under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by three (3) arbitrators appointed in accordance with said Rules. This agreement to arbitrate and any resulting award shall be enforceable in any court with competent jurisdiction.

In accordance with the requirement of the Venezuelan Congress in its approval of the AA, this is a Guaranty in support of commercial activities (to be performed by a mercantile enterprise created pursuant to a Strategic Association between CONOCO and PDVSA'S affiliate MARAVEN) which in no way grants to CONOCO recourse to the full faith and credit of the Republic of Venezuela. Consistent with this principle, PDVSA agrees that it shall only raise or claim or cause to be pleaded defenses available to it as a government owned commercial entity under the applicable law as opposed to those as may be available to the Republic of Venezuela (and its government) as a sovereign state.

83. Article 17 of the Hamaca AA provides as follows:

ARTICLE XVII

GOVERNING LAW; ARBITRATION; SOVEREIGN RIGHTS

<u>17.1. Governing Law</u>

This Agreement shall be governed by and construed in accordance with the laws of the Republic of Venezuela.

<u>17.2. Arbitration</u>

(a) Any dispute arising out of, or relating in any way to this Agreement shall be settled exclusively and finally by arbitration. The arbitration shall be conducted and finally settled in accordance with the ICC Rules.

i. If there are only two (2) parties to a dispute, then each party shall appoint one arbitrator within thirty (30) days of receipt of notice of the commencement of the arbitration, and the two (2) arbitrators so appointed shall appoint the third (3rd), and presiding, arbitrator within thirty (30) days after the later of the two (2) arbitrators is appointed by the parties. If the two (2) arbitrators so appointed cannot agree within thirty (30) days of their appointment on a third (3rd) arbitrator to serve as presiding arbitrator and such time is not extended, then the

presiding arbitrator shall be appointed by the ICA as quickly as practicable.

ii. If there are more than two (2) parties to a dispute, such parties shall attempt to agree, within fifteen (15) days after delivery of notice of the commencement of the arbitration to all of them, to divide themselves into two (2) groups for purposes of appointing arbitrators. If they so agree within such fifteen (15) day period, then each group shall within a further thirty (30) days appoint one (1) arbitrator, and the two (2) arbitrators so appointed shall appoint the third (3rd), and presiding, arbitrator within thirty (30) days after the later of the two (2) arbitrators is appointed by the two (2) groups. If the two (2) arbitrators so appointed cannot agree within such thirty (30) day period on a third (3rd) arbitrator to serve as presiding arbitrator and such time is not extended, then the presiding arbitrator shall be appointed by the ICA as quickly as practicable.

iii. If there are more than two (2) parties to a dispute and they cannot agree within the above-mentioned fifteen (15) day period as to how they should be grouped for purposes of appointing arbitrators, then the ICA shall attempt, as quickly as practicable, to group the parties into two (2) groups based on the parties' common interests and common positions. If the ICA determines such grouping, each group so determined shall attempt to appoint one (1) arbitrator within thirty (30) days after such determination. The two (2) arbitrators so appointed shall appoint the third (3rd), and presiding arbitrator, within thirty (30) days after their appointment. If either group fails to appoint an arbitrator within such thirty (30) day period, such arbitrator shall be appointed by the ICA as quickly as practicable. If the two (2) arbitrators so appointed cannot agree within thirty (30) days after the later of the two (2) arbitrators is appointed by or for the parties, on a third (3rd) arbitrator to serve as presiding arbitrator and such time is not extended, then the presiding arbitrator shall be appointed by the ICA as quickly as practicable. In the event the ICA determines that it cannot in fairness group the parties into two (2) groups based upon common interests and positions, all three (3) arbitrators shall be appointed by the ICA as quickly as practicable.

iv. Notwithstanding the foregoing, (x) disputes submitted to arbitration pursuant to Section 7.4, 11.9 or 15.4 shall be resolved by a single (1) arbitrator agreed by the parties to the dispute; provided that if such parties are unable to agree on an arbitrator within sixty (60) days of the submission of the claim to arbitrate (or, in the case of arbitration pursuant to Section 7.4, within the period set out in Section 7.4(d)), the arbitrator shall be appointed by the ICA, and (y) disputes submitted to an expert pursuant to Section 9.3, 12.2 or 14.2(g) shall be resolved as specified in Section 17.3. In the case of an arbitration pursuant to Section 7.4, such arbitration shall be conducted on an expedited basis and otherwise in conformity with the requirements of Section 7.4 and, to the extent not inconsistent therewith, this Section 17.2.

(b) No arbitrator shall have any financial interest, direct or indirect, in the dispute or any financial dependence, direct or indirect, upon any of the parties to the dispute. All arbitrators shall be impartial and shall abide by the International Bar Association's Rules of Ethics for International Arbitrators. In an arbitration panel composed of three (3) arbitrators, the presiding arbitrator shall not be of the same nationality as the parties to the dispute. In the event of an arbitration before a single arbitrator, the sole arbitrator may be of the same nationality as a party to the dispute. All arbitrators shall be knowledgeable of

the international petroleum business. All arbitrators appointed pursuant to this Agreement shall have the power to issue orders for interim measures.

(c) Unless otherwise agreed by all parties to the arbitration, all arbitration proceedings under this Agreement shall be conducted in New York City, United States of America. The arbitration proceedings shall be conducted in the English language with appropriate arrangements for the translation of any testimony and documents, with the costs of such arrangements to be shared equally by the parties.

(d) Each Party agrees that it will provide discovery in any arbitration proceedings involving alleged environmental damage. Each Party agrees to produce documents related to any and all of its activities in the Project Area. Such documents shall include, but shall not be limited to, contracts, books, records, internal documents, notes and memoranda, of any and all kinds or types, to the extent they relate to such activities. It shall not be objectionable that documents are requested by general category. Each Party also agrees to provide oral depositions of its employees, officers and directors, and to fully, accurately and timely answer written interrogatories submitted to it. Each Party further agrees to permit environmental audits of the Project Area and audits of such Party's contracts, books, records, internal documents, notes and memoranda, and interviews of such Party's employees, for the purpose of determining compliance with applicable law and environmental damage in the Project Area and the cause thereof. The arbitral tribunal shall have the power, upon the application of any party, to make all appropriate orders for the discovery described above. The Parties further agree to use their best efforts to cause third parties that they grant the right to conduct activities in the Project Area to produce documents and make available employees for the purpose of determining environmental compliance and damage in the Project Area and the cause thereof.

(e) The award, decision or determination of the arbitral tribunal, which shall be reduced to writing with the reasons therefor set forth therein, shall be final and binding upon the Parties. Recognition and enforcement of any award, decision or determination rendered by the arbitral tribunal may be had in any court of competent jurisdiction. To the extent permitted by law, any rights to appeal from or to cause a review of any such award by any court or tribunal are hereby waived by the Parties. In any proceedings in the courts of the United States of America in respect of this agreement to arbitrate, the arbitration proceedings or the arbitral award, decision or determination shall be governed exclusively by the United States Arbitration Act to the exclusion of the law of any state. The Parties acknowledge that this Agreement and any arbitral award, decision or determination rendered under it are international in nature and that the enforcement of this Agreement or any arbitral award, decision or determination rendered pursuant hereto shall be governed by the 1958 United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards.

17.3. Expert Determinations

(a) Disputes submitted to an expert pursuant to Sections 9.3, 12.2 and 14.2(g) shall be resolved as specified in such Sections and, to the extent not inconsistent therewith, as set out in this Section. If the Parties are unable to agree upon the identity of the expert within ten (10) days after the date of a letter from one party giving notice that it seeks an expert determination, then the Parties hereby agree that the ICE shall appoint such an expert, and shall administer such expert determination on an expedited basis through the ICC's Rules for Expertise.

(b) Any expert appointed hereunder shall be a reputable individual possessing expert qualifications and knowledge and experience in the subject matter of the dispute sufficient to resolve the dispute competently. Such expert shall also be impartial and independent of the Parties. Within three (3) Business Days of receipt of notice from any Party requesting the ICE to appoint an expert, the Parties may notify the ICE of the professional qualifications and experience they believe are required of the expert to be appointed for the resolution of the particular dispute in issue, provided, they are not inconsistent with Sections 9.3, 12.2 or 14.2(g), as applicable.

(c) All Parties agree to cooperate fully in the expeditious conduct of such expert determination and, subject to the provisions of Section 9.3(f), to provide the expert with access to all facilities, books, records, documents, and information as the expert may request in order to make such decision on a fully informed basis in an expeditious manner. The expert shall endeavor to resolve the dispute in question within thirty (30) days, and in any event no later than sixty (60) days, after his appointment, taking into account the circumstances requiring an expeditious resolution of the matter in dispute; provided that no failure to make a decision within such period shall invalidate the expert's determination. Upon the request of any Party, the expert shall hold an expedited, one-day hearing with each Party having equal time to be heard. All communications between the Parties and the expert shall be conducted in writing with copies sent simultaneously and by the same means to all Parties. If any meetings take place with the expert, such as during an inspection of facilities or the explanation of any documents or records, then all Parties shall receive reasonable advance notice and be entitled to attend.

(d) The costs and expenses of the expert shall be borne by the Parties in proportion to their interests in the Project.

17.4. Pre-Judgment Attachment

Except as otherwise specified in Article XI, each Party agrees that it shall not, and waives any right it might have to, seek to attach assets of any other Party prior to issuance of a final arbitral decision pursuant to this Article XVII.

17.5. Consolidation; Joinder

If any Party or any party to any Related Agreement or any other Person who is bound to this or another similar arbitration agreement in connection with the Project or activities conducted in the Project Area initiates multiple arbitration proceedings, the subject matters of which are related by common questions of law or fact and which could result in conflicting awards or obligations, the Parties hereby agree that all such proceedings may be consolidated into a single arbitral proceeding at the request of any Party. Without prejudice to the above, the Parties also agree that any guarantor of a Party's obligations under this Agreement or any Related Agreement may be joined or consolidated into any arbitration that results under this Agreement. The Parties agree that any party to a Related Agreement may be joined as a party in any arbitration proceeding.

If any party to a Related Agreement is joined in an arbitration hereunder, any provisions of such Related Agreement regarding the disclosure of information shall apply. Notwithstanding the provisions of Section 17.2(a), in the event that in any arbitration proceeding to which Corpoven Sub and Corpoven are both parties, the interests and positions of Corpoven Sub and Corpoven are not the same, the ICA shall appoint all arbitrators in the arbitration proceeding.

17.6. Costs

The costs of the arbitration proceedings (other than costs of arrangements for translations), including attorneys' fees and costs, shall be borne in the manner determined by the arbitral tribunal.

17.7. Waiver of immunity

The Parties agree that the activities contemplated by this Agreement and the Related Agreements are commercial in nature. To the extent that any Party has or hereafter may acquire any immunity from jurisdiction of any court, or from attachment in aid of execution or any other legal process (other than pre-judgment attachment) in any action or proceeding in any manner arising out of this Agreement or any Related Agreement with respect to itself or its assets, such Party hereby irrevocably agrees not to invoke such immunity as a defense and irrevocably waives such immunity.

17.8. Alternative Resolution of Disputes

In the event that any arbitration or award pursuant to an arbitration conducted according to the provision of this Article XVII is found invalid or unenforceable in Venezuela for any reason, the Parties agree, at the election of any Party, to submit any dispute arising out of or relating in any way to this Agreement to binding arbitration before the International Centre for Settlement of Investment Disputes ("ICSID") in accordance with its arbitration rules as in effect at the time of such dispute. The Parties agree that for purposes of ICSID arbitration, the activities contemplated by this Agreement will constitute an investment. Should ICSID be unwilling or unable to hear a dispute for any reason, the Parties shall select an alternate arbitration forum to determine the dispute. Subject to the requirements of any such forum, all other provisions of this Article XVII shall remain in effect with respect to any such arbitration.

84. Article 13 of the Hamaca Guarantee provides as follows:

13. Any disputes resulting from or related to this Guarantee or its performance will be resolved exclusively by arbitration and any arbitration ruling will be binding. The arbitration will be governed and conducted in accordance with the Mediation and Arbitration Rules of the International Arbitration Court (hereinafter referred to as the "ICA") of the International Chamber of Commerce (hereinafter referred to as the "ICC Rules"). The Guarantor will appoint one (1) arbitrator and the Foreign Parties (or if more than one Foreign Party is involved in the dispute, collectively, the Foreign Parties) will appoint one (1) arbitrator, and if the Guarantor or the Foreign Party (or the Foreign Parties collectively) fail to appoint their arbitrators within a period of thirty (30) days following receipt of the notice of the initiation of the arbitration process, the ICA will appoint an arbitrator to represent the party in question.

The two (2) arbitrators thus appointed, either by the parties or in representation of the parties, will appoint the third arbitrator, who will preside over the arbitration court, with a period of thirty (30) days following the date on which the last of the two arbitrators is appointed by or in representation of the Guarantor and the Foreign Party (or the Foreign Parties collectively). If the two (2) arbitrators thus appointed are unable to reach an agreement regarding the appointment of the third arbitrator to preside over the arbitration court within a period of thirty (30) days following the date on which the last of the two arbitrators is appointed by or in representation of the Guarantor or the Foreign Party (or the Foreign Parties collectively), and if the deadline is not extended, then the arbitrator who will preside of the arbitration court will be appointed by the ICA as soon as possible.

No arbitrator may have any direct or indirect financial interest in the dispute, nor may any arbitrator be a direct or indirect financial dependent of any of the parties to the dispute. All arbitrators will be impartial and will be subject to the Rules of Ethics for International Arbitrators issued by the International Bar Association. The arbitrator presiding over the court may not be of the same nationality as any of the parties to the dispute. All arbitrators must be knowledgeable in matters related to the international petroleum sector. The arbitration court established in the manner specified in this Guarantee will have the authority to issue orders imposing interim relief measures.

All arbitration procedures described in this Guarantee will be conducted in the city of New York, United States of America, unless all parties to the arbitration agree otherwise. The arbitration procedures will be conducted in English, with the corresponding arrangements for translation of any testimony and documents, and the cost of these arrangements will be shared equally by the parties to the arbitration.

The ruling, decision or determination of the arbitration court, which must be in writing and must be based on the corresponding facts and legal principles, will be final and binding for the Guarantor and each of the Foreign Parties. Recognition and enforcement of any ruling, decision or determination issued by the arbitration court may be obtained from any court or tribunal having jurisdiction. To the extent allowed by law, the Guarantor and each of the Foreign Parties hereby waive any right of appeal or review of any arbitration ruling by any court or tribunal. Any process before the courts of the United States of America related to the arbitration commitment, the arbitration process or the arbitration ruling, decision or determination will be exclusively subject to the Arbitration Law of the United States of America to the exclusion of any law of any State of the United States of America. The Guarantor and each of the Foreign Parties acknowledge that this Guarantee and any arbitration ruling, decision or determination issued under the terms of this Guarantee are international in nature, and that enforcement of this Guarantee or any ruling, decision or determination issued under the terms of this Guarantee, will be governed by the 1958 United Nations Convention on Recognition and Enforcement of Foreign Arbitration Rulings.

The cost of the arbitration (other than costs related to translation arrangements), including attorneys' fees and costs, will be assumed in the manner specified by the arbitration court.

Without limiting or restricting the above provisions, the Guarantor hereby agrees that, at the request of any Foreign Party, it will be joined as a party to any arbitration process initiated under the terms of the Agreement or any Related Agreement related to compliance by the Corpoven Affiliate with its obligations under the terms of the Agreement or any Related Agreement. The Guarantor and each of the Foreign Parties agree that any arbitration process initiated under the terms and conditions of this Guarantee, may be joined to any arbitration process initiated under the terms of the Agreement or any Related Agreement, if the subject matter of the processes is related due to common legal or factual issues which could result in contradictory rulings or obligations.

The Guarantor and each of the Foreign Parties agree that any ruling issued by an arbitration court in any of the arbitration processes to which the Guarantor is a party, will be final and binding upon the Guarantor and each Foreign Party. The Guarantor and each of the Foreign Parties also agree that any of the aforementioned arbitration processes (and, as mentioned below, the appointment of arbitrators) to which they are party, will be substantiated in accordance with the provisions of the Agreement and the corresponding Related Agreements. The Guarantor agrees that, for purposes of appointment of arbitrators and grouping of the parties for the corresponding appointments,

> the interests and positions of the Guarantor will be understood to be identical to those of the Corpoven Affiliate (including any Affiliate considered to be a Corpoven Affiliate pursuant to the provisions of Section 8 of this Guarantee) and of Corpoven S. A., a business corporation incorporated in accordance with the laws of the Republic of Venezuela (Corpoven, S. A. and its successors and any Affiliate of the Corpoven Affiliate to which the rights and obligations of Corpoven are transferred under the terms of the Development Production Supply Agreement or the Acknowledgement Agreement, hereinafter referred to as "Corpoven"); with the understanding that, if the interests and positions of the Corpoven Affiliate and Corpoven are not identical, the ICA will appoint all of the arbitrators in the arbitration process.
>
> If any arbitration or ruling issued under the terms of an arbitration conducted in accordance with the provisions of Section 13 is declared to be invalid and unenforceable in Venezuela for any reason, at the request of the Guarantor or any Foreign Party, the Guarantor and each of the Foreign Parties agree to submit any dispute resulting from or related in any way to this Guarantee or its enforcement, to binding arbitration conducted by the International Center for Settlement of Investment Disputes (hereinafter referred to as "ICSID"), subject to the arbitration regulations in effect at the Center at the time of the dispute. The Guarantor and the Foreign Parties agree that, for purposes of the ICSID arbitration, the activities described in the Agreement and the Related Agreements will constitute an investment. If the ICSID is unwilling or incapable of hearing the dispute for any reason, the Guarantor and the Foreign Parties who are parties to the dispute will select an alternate arbitration venue to resolve the dispute. Subject to the requirements of the venue in question, all other provisions included in this Section 13 will remain in full force and effect in any other arbitration process.

85. The Respondents' objections to the Tribunal's jurisdiction on the grounds of the alleged lack of arbitrability of the Willful Breach Claims is addressed in more detail at Section III.C.3.a below. Their objections to the admissibility of the Discriminatory Action Claims are addressed at Sections III.B.4.d and III.B.4.e below.

2. Place of Arbitration

86. The place of arbitration is New York City, New York (U.S.A.), pursuant to Article 13.16 of the Petrozuata AA, Article 4 of the Petrozuata Guaranty, Article 17.2(c) of the Hamaca AA and Article 13 of the Hamaca Guarantee.

87. The ToR provides that all proceedings shall take place in New York unless all Parties agree otherwise, or the Tribunal decides otherwise, upon request of one of the Parties or on its own motion, by showing of good cause.

88. Subsequently, on 14 June 2016, the Parties agreed that the Hearing should take place in Washington DC. The Tribunal recorded this agreement in PO 4.

3. Applicable law

89. The applicable substantive law is Venezuelan law, pursuant to Article 17.1 of the Hamaca AA, Article 13 of the Hamaca Guarantee, Article 13.15 of the Petrozuata AA and Article 4 of the Petrozuata Guaranty (which also refers to "generally accepted principles of international law to the extent that such principles do not contradict such [Venezuelan] laws").

4. Applicable procedural rules

90. This arbitration is governed by (in the following order of precedence):

a) The mandatory rules of the law on international arbitration applicable at the place of the arbitration;

b) The ICC Rules of Arbitration of 2012;

c) The ToR and the procedural rules issued by the Arbitral Tribunal, as reflected in PO 1, and any amendments thereof.

91. As set forth in the ToR, if the provisions therein do not address a specific procedural issue, the applicable procedural issue is to be determined by agreement between the Parties or, in the absence of such agreement, by the Arbitral Tribunal.

92. Further, in accordance with Section 10 of PO 1, the Tribunal may also seek guidance from, but is not bound by, the IBA Rules on the Taking of Evidence in International Arbitration 2010.

5. Language

93. The Parties have agreed that the language of the arbitration shall be English.

B. THE DISCRIMINATORY ACTION CLAIM

1. The Claimants' position

94. The Claimants argue that, under Section 9.07 of the Petrozuata AA and Article 14.2 of the Hamaca AA, the Respondents assumed the obligation to indemnify the Claimants in accordance with the formulae stipulated therein in the event of: (i) the

occurrence of a DA;[69] and (ii) such DA being deemed compensable for causing either Significant Economic Damage (under the Petrozuata AA)[70] or Material Adverse Effect (under the Hamaca AA)[71] to the Projects. The Claimants submit that the following measures by the Government constitute DAs for which compensation is due:

i. The income tax increase enacted by the Government in October 2006 with effect from 1 January 2007, pursuant to which the income tax rate for the EHCO projects was increased from 34% to 50% ("Income Tax Increase").[72]

ii. The dispossession of the Claimants' full interests in the Projects in mid-2007 pursuant to the 2007 Nationalization Decree, whereby the Government seized control of the operations and assets of the Projects (the "Expropriation").[73] According to the Claimants, the Expropriation "was not limited to a single confiscatory act, but instead comprised a campaign of coordinated measures designed to depress the value of, and then to take, the [AAs]".[74] In this context, the Claimants refer to: (i) the abrogation of the Royalty Agreement[75] in October 2004, which resulted in an increase in applicable royalty rates from 1% to 16.66% ("Royalty Measure"); and (ii) the introduction of an additional tax in May 2006, which had the equivalent effect of further increasing the royalty rate to 33.33% ("Extraction Tax"). For the Claimants, "each of these coordinated steps […] must be considered as a constituent part of the Expropriation, thus rendering the entirety of the Expropriation—and not just the Projects' physical confiscation—a [DA] under both AAs"[76] (the "Overall Expropriation", which thus encompasses the Expropriation, the Royalty

[69] Discriminatory Action is defined at Section 1.01 of the Petrozuata AA (*infra*, § 100) and at Article 14.1(b) of the Hamaca AA (*infra,* § 106).

[70] Significant Economic Damage is defined at Section 1.01 of the Petrozuata AA (*infra,* § 101).

[71] Material Adverse Effect is defined at Article 14.2(a) of the Hamaca AA (*infra,* §§ 107-108).

[72] For the purposes of clarity, the Tribunal has once again elaborated upon the measures/actions of the Government that the Claimants challenge. However, these qualified measures are as defined in the "Summary of the Main Facts" (*supra,* § 27).

[73] C-PHB, § 54.

[74] C-PHB, § 85.

[75] One among the various fiscal measures adopted to incentivize investment into the EHCO projects, was the reduction of the royalty rate to 1%. This was captured by way of the Royalty Reduction Agreement between PDVSA Petróleo, the Ministry, and the concerned EHCO project (**C-67**).

[76] C-PHB, § 97.

Measure and the Extraction Tax).[77] This is so given that the "AAs expressly require that the damaging actions be analyzed 'globally'".[78]

95. Contrary to the Respondents' position,[79] the Claimants also emphasize that they have (i) provided adequate and timely notice for their DA claims; as well as (ii) sufficiently pursued alternate remedies. Therefore, they cannot be considered to have either forfeited or waived their rights under the AAs to bring the DA claims.[80]

2. The Respondents' position

96. While the Respondents concede that the Expropriation constitutes a DA,[81] they contest the Overall Expropriation argument raised by the Claimants. In the Respondents' view, neither the Royalty Measure nor the Extraction Tax can be characterized as a DA.[82] The Respondents submit that the "global" or "cumulative" view purported by the Claimants finds no basis in the text of the AAs[83] or their negotiation history.[84] By the same token, such "cumulative" view disregards the understanding of "expropriation" under both Venezuelan and international law.[85] Indeed, the Claimants themselves have conceded that the Royalty Measure and the Extraction Tax do not constitute DAs on a stand-alone basis.[86] It follows that no

[77] The Claimants initially argued that all the "value-reducing measures that preceded the nationalization, i.e. the Royalty [Measure], the Extraction Tax, and the Income Tax […] must be considered a constituent part of the Expropriation, thus rendering the entirety of the Expropriation—and not just the Projects' physical confiscation—a Discriminatory Action under both AAs" (Reply, § 170). In other words, the Claimants seemed to characterize the Income Tax Increase as part of the Overall Expropriation, i.e., as one of the qualified measures to be analyzed globally or in combination with the Expropriation. Subsequently, however, the Claimants were emphatic that there are only two DA Claims at issue: the Income Tax Increase, on the one hand, and the Expropriation, on the other (Tr. (Day 12), 2977:9-19 (Claimants' Closing Statement)).

Accordingly, the Tribunal understands that: (i) the Income Tax Increase is not part of the Overall Expropriation, as it constitutes, according to the Claimants, a DA on a stand-alone basis; (ii) only the Royalty Measure and the Extraction Tax ought to be cumulatively assessed together with the Expropriation in order to ascertain whether the Overall Expropriation constitutes a DA under each AA; and (iii) the Expropriation and the Overall Expropriation are not to be deemed as two separate claims, but rather that the Expropriation serves as the main basis for the Claimants' Overall Expropriation argument.

[78] C-PHB, § 18.

[79] *Infra,* § 98.

[80] C-PHB, § 56.

[81] Rejoinder, § 21; Tr. (Day 1), 209:5-10 (Respondents' Opening Statement); August 2016 ICSID Hearing Transcript, **R-186**, Day 2, 457: 20-21.

[82] SoD, §§ 282-287; Rejoinder, §§ 21, 301-302, 307-322; R-PHB, §§ 499-511; Tr. (Day 1), 203:15-208:12 (Respondents' Opening Statement).

[83] SoD, § 286, R-PHB, §§ 495, 498-499.

[84] Rejoinder, §§ 316-322; R-PHB, §§ 496, 512-520.

[85] R-PHB, §§ 501-505.

[86] R-PHB, fn. 1009, § 55.

compensation or indemnity can be deemed payable to the Claimants for either of these two measures.[87]

97. The Respondents also negate the characterization of the Income Tax Increase as a DA. They submit that the Income Tax Increase applied to "all Venezuelan taxpayers deriving income from the production of hydrocarbons, including the mixed companies emerging from the 2005 migration process for the operating services agreements and the 2007 migration process for the associations".[88] This being the correct comparator, the Income Tax Increase cannot be considered as a discriminatory measure. Hence, it does not constitute a DA.

98. Moreover, the Respondents submit that the Claimants have forfeited their right to pursue the DA Claim as a result of their failure to (i) notify the Respondents of the occurrence of a DA in accordance with the specific notice requirements under each AA;[89] and (ii) exhaust all local and administrative remedies, as stipulated by the AAs.[90]

3. Relevant contractual provisions

99. Before addressing the Parties' arguments, the Tribunal first sets out the relevant provisions in both AAs dealing with DAs.[91] Because of their complexity, the Tribunal transcribes the aforementioned provisions in their entirety.

i. The Petrozuata AA

100. Section 1.01 of the Petrozuata AA defines DAs as follows:

> 'Discriminatory Actions' means any actions, decisions, or **changes in law**, adopted by national, state, or municipal, administrative, or legislative authorities, after a Development Decision has been made, **which singly or in combination**, result in **unjust discriminatory treatment** to [Petrozuata C.A.], any of its Shareholders (in their capacity as Shareholders), the associations created under Article 5 of the Organic Law or any of them, or any of their Shareholders (in their capacity as Shareholders), **which are not applicable to all enterprises in Venezuela** and **which produce Significant Economic Damage** to the Shareholders of [Petrozuata C.A.] other than [PDVSA Petróleo]; provided that:

[87] R-PHB, § 495.

[88] R-PHB, § 521.

[89] Petrozuata AA, **C-1**, Section 9.07(e); Hamaca AA, **C-3**, Article 14.3(a)-(b); R-PHB, §§ 522-549.

[90] Petrozuata AA, **C-1**, Section 9.07(d); Hamaca AA, **C-3**, Article 14.3(a); R-PHB, §§ 550-565.

[91] Petrozuata AA, **C-1**, Section 9.07; Hamaca AA, **C-3**, Section 14.2.

(a) treatment shall not be considered discriminatory **if it equally applies to the enterprises (empresas) within the oil industry** in Venezuela, except that:

(1) with respect to the application of income taxes and any valuations as a basis for income taxes (e.g. the Fiscal Export Value), **treatment shall be considered discriminatory if it is not generally applicable to most enterprises in Venezuela;**

(2) with respect to limitations on:

(i) the ability to declare or repatriate dividends outside Venezuela;

(ii) the right to hold abroad the proceeds of the sale of Upgraded Crude Oil in non-Venezuelan currency; and

(iii) the unencumbered convertibility of non-Venezuelan currency into Venezuelan currency (and vice versa) at a free, universal market rate;

treatment shall be considered discriminatory if it is not generally applicable to most enterprises in Venezuela;

(3) **even if treatment equally applies to the enterprises within the oil industry in Venezuela, treatment may nevertheless be discriminatory if after analyzing globally all actions, decisions, or, changes in law** that have been adopted in parallel or within a reasonable period of time, such actions, decisions, or changes in law resulted in economic damage to the shareholders of [Petrozuata C.A.], that was **not actually suffered by government owned companies within the oil industry**, or, if suffered by government owned companies within the oil industry, the negative impact on [Petrozuata C.A.] **is disproportionately onerous as compared to the government owned companies within the oil industry**, it being understood, however, that if special favorable treatment applicable only to the government owned companies is adopted, such treatment shall not be considered per se discriminatory.

(b) with respect to municipal taxes, if applicable to any of [Petrozuata C.A.'s] activities, treatment shall be considered discriminatory if the tariff rate applicable is higher than the highest tariff rate applicable to the industrial activity classification(s), as agreed by the Parties and attached hereto as Exhibit "Q," which have enterprises in actual operation in the corresponding municipality; and

(c) treatment adopted for the purpose of implementing technical or operational regulations relating to safety or the protection of the environment shall not be considered discriminatory:

For the purpose of this definition, treatment shall be considered unjust if it results in Significant Economic Damage (as defined below) and such Damage is subject to compensation under the terms of Section 9.07 of this Agreement.[92]

101. In turn, Significant Economic Damage ("SED") is defined under the Petrozuata AA as:

[E]conomic damage arising as a result of Discriminatory Actions during any fiscal year, which amounts to at least US $6.5 million (inflated from 1994 Dollars

[92] Petrozuata AA, **C-1**, Section 1.01 (emphasis added).

> to the then current time by the US Inflation Index) for all Class B Shareholders [*i.e.*, CPZ]. Such economic damage shall be determined by calculating any loan repayments or dividends that [CPZ] would have otherwise received and could otherwise have repatriated in a given fiscal year had no Discriminatory Actions occurred and subtracting therefrom the dividends, Advances thereon and loan repayments, that were actually received and repatriated in that fiscal year by [CPZ].[93]

102. With due regard to the above provisions, Section 9.07 of the Petrozuata AA further stipulates that PDVSA Petróleo (and PDVSA, as Guarantor under the Guaranty) is obligated to indemnify the Claimants for the SED suffered by virtue of DAs taken by Venezuela. In particular, Section 9.07 provides that:

> [I]n the event that a Class B Shareholder [*i.e.*, CPZ] suffers in any fiscal year Significant Economic Damage as a result of any Discriminatory Actions ("Injured Shareholder"), such Injured Shareholder shall be compensated by the Class A Privileged Shareholder [*i.e.*, PDVSA Petróleo] for the economic damage suffered by virtue of the Discriminatory Actions.[94]

103. Sections 9.07(a) to (c) then proceed to set out the modalities and formula based on which compensation payable to the Injured Shareholder shall be calculated and paid. These are not relevant in the present analysis on liability. Hence, to the extent necessary, they will only be referred to in the Quantum section below.[95]

104. Subsequently, Section 9.07(d) deals with the purported exhaustion of legal remedies. It provides as follows:

> (d) [CPZ] shall, **to the fullest extent practicable, commence and exhaust all available legal and administrative actions which may provide a remedy from the application of such Discriminatory Actions**. If any such actions are available, [PDVSA Petróleo] may retain any amounts due under this Section 9.07 (which shall accrue interest at the Base Rate) until the earlier of: (i) the third anniversary date of the commencement of legal and administrative actions, provided they have been diligently pursued; (ii) the exhaustion of available legal and administrative actions; or (iii) [CPZ]'s success in obtaining a remedy from the application of the corresponding Discriminatory Actions; at which time [PDVSA Petróleo] shall pay to [CPZ] any amount owed (with interest at the Base Rate) which has not been compensated for with a remedy and shall thereafter make any additional payments required hereunder when due. If there is compensation under (i) above, [CPZ] shall diligently continue to pursue and exhaust any available remedies, or [CPZ] otherwise obtains economic relief intended to offset the Discriminatory Action, directly or indirectly, as a result of another legislative or administrative action which was not generally applicable to most enterprises in Venezuela, then: (1) [CPZ] shall refund to [PDVSA Petróleo] any discrimination compensation already paid which corresponds to the remedy or relief which has been obtained by [CPZ] (plus interest at the

[93] Petrozuata AA, **C-1**, Section 1.01.

[94] Petrozuata AA, **C-1**, Section 9.07.

[95] *Infra,* § 545.

> Base Rate); and/or (2) the damages shall be recalculated to take into consideration the remedy or economic relief obtained, as the case may be.[96]

105. Finally, Section 9.07(e) addresses the purported notice requirements as follows:

> (e) The **right to compensation** of [CPZ] under this Section 9.07 **shall be limited to those damages** actually suffered by such Shareholder beginning with the fiscal year previous to the year in which **a written notice is sent** to [PDVSA Petróleo], indicating that the notifying Shareholder considers that a Discriminatory Action has taken place.[97]

ii. The Hamaca AA

106. Article 14.1(b) of the Hamaca AA defines a DA as:

> **[A]ny change of Venezuelan national, state or municipal law**, or any act or action with force of law, act of government (*actos de gobierno*), or action or decision of any Venezuelan national, state or municipal legislative or administrative authority (including any such action or decision resulting in a change in interpretation or application of Venezuelan law), which is (i) applicable to the Association, the Association Entities or a Party in its capacity as a participant in the Association or an Association Entity, (ii) unjust and (iii) not generally applicable to entities (both public and private) engaged on their own behalf (e.g., excluding service contract providers in the performance of such service activities) in the hydrocarbon industry in Venezuela; provided that:
>
> (1) **any change of Venezuelan national, state or municipal law**, **or any act or action with force of law, act of government, or action or decision of any Venezuelan national, state or municipal legislative** or administrative authority (including any such action or decision resulting in a change in interpretation or application of Venezuelan law) **in respect of tax rates** (including value added taxes, such as *impuestos a las ventas al mayor,* and the legal procedure established for its recovery), new taxes, financial burdens or charges for goods and services provided by governmental entities which are the equivalent of a tax *(i.e.,* financial burdens or charges on goods or services imposed by a governmental entity acting as the sole provider of such goods or services or in regulating an activity conducted under monopoly conditions), foreign exchange controls or **the expropriation of the assets of, or a Party's interest in,** the Association or Association Entities, **will be considered Discriminatory Actions if they are not generally applicable to corporations and other legal entities that are taxable in the same manner as corporations in Venezuela**;
>
> (2) the application of methods to determine transfer pricing for the purpose of taxes payable in respect of Extra-Heavy Oil (as recovered or industrialized) or Commercial Production produced by the Parties in their capacity as participants in the Association or goods and services provided in connection with the Project activities shall be considered Discriminatory Actions if such methods are not generally consistent with internationally recognized transfer pricing principles for taxation;
>
> (3) a binding determination by any competent Venezuelan authority that the Association Entities or the Parties in their capacity as participants in the

[96] Petrozuata AA, **C-1**, Section 9.07(d) (emphasis added).

[97] Petrozuata AA, **C-1**, Section 9.07(e) (emphasis added).

Association or in the Association Entities, are subject to taxation under a regime less favorable to the Parties than paragraph *unique* of Article 9 of the Venezuelan Income Tax Law *(i.e.,* a regime less favorable to the Parties than that generally applicable to corporations and other legal entities that are taxable in the same manner as corporations in Venezuela) shall be considered a Discriminatory Action;

(4) **reductions or increases in the royalty rate applicable to the crude oil produced by the Parties in their capacity as participants in the Association, will not be considered Discriminatory Actions under this provision unless such changes result in a royalty rate for the Parties in their capacity as participants in the Association, in excess of the maximum rate specified by law for the hydrocarbon industry in general**; and

(5) the imposition of municipal taxes *(patente de industria y comercio)* on the Parties in their capacity as participants in the Association or on the Association Entities, in spite of the provisions of the Conditions, will be considered a Discriminatory Action only if the aggregate municipal tax burden on the Affected Party's gross revenue from Project activities exceeds four percent (4%) of the Affected Party's gross revenue from Project activities in the relevant Fiscal Year, in which event the full amount of all municipal taxes will be taken into account in computing decreased Reference Net Cash Flow (calculated in accordance with Section 14.2(f)) for purposes of ascertaining whether the Affected Party has suffered a Material Adverse Effect (although the Affected Party will be compensated only for the decrease in Reference Net Cash Flow attributable to municipal taxes over four percent (4%)).

For the purposes of this Article XIV, "act of government" (*actos de gobierno*) shall mean any act of the higher bodies of the executive power directly based on the constitution of the Republic of Venezuela not related to formal law, but similarly enforceable.[98]

107. Under the Hamaca AA, the Claimants' entitlement to receive compensation due to the enactment of a DA does not arise out of the causation of SED. Rather, the Hamaca AA refers to the equivalent notion of Material Adverse Effect ("MAE"). In particular, Article 14.2(a) states the following:

Corpoven Sub shall be required to compensate any Foreign Party, **in the manner described in this Article XIV, to the extent that the Party suffers a reduction of more than five percent (5%) in any Fiscal Year in its Reference Net Cash Flow as the result of one or more Discriminatory Actions (including Discriminatory Actions occurring after, but having an effect on the Reference Net Cash Flow from, such year) (any such Party, an "Affected Party")**, with such reduction being determined by comparing, with respect to any Party in any Fiscal Year, such Party's Reference Net Cash Flow for such year, including the effect of all uncompensated Discriminatory Actions, with the Party's Reference Net Cash Flow for such year excluding the effect of the uncompensated Discriminatory Actions (such reduction, a "Material Adverse Effect"), **it being understood that any Discriminatory Actions would be considered unjust if they resulted, individually or in the aggregate, in a Material Adverse Effect.**[99]

[98] Hamaca AA, **C-3**, Article 14.1(b).

[99] Hamaca AA, **C-3**, Article 14.2(a) (underline in the original, emphasis added).

108. Articles 14.2(b) to (i) set out the formula for computation of damages payable to the affected party. As in the case of their equivalent in the Petrozuata AA,[100] Articles 14.2(b) to (i) of the Hamaca AA will only be invoked, to the extent necessary, in the Quantum analysis.[101]

109. Article 14.3 deals, chiefly, with: (i) the notification by the claiming party that a particular measure must be deemed a DA causing a MAE; and (ii) the subsequent legal proceedings to be initiated upon considering that a measure potentially constitutes a DA causing a MAE. Article 14.3, in its relevant part, provides:

> (a) In the event that a Foreign Party considers that a Discriminatory Action has occurred, it promptly shall give notice thereof (a "Notice of Discriminatory Act") to Corpoven Sub and shall indicate whether it believe[s] that such Discriminatory Action will result in Material Adverse Effect. Promptly following receipt of such a notice, Corpoven Sub shall inform the notifying Party of whether or not Corpoven Sub agrees that the notified action is a Discriminatory Action which may lead to a Material Adverse Effect. Following Corpoven Sub's response, the claiming Party (the "Claiming Party") [i.e. CPH] and Corpoven Sub shall promptly meet to discuss the formal legal remedies, such as court or administrative proceedings, that may be appropriate to reverse or obtain relief from the alleged Discriminatory Action, and [CPH] shall commence independently (or if Corpoven Sub so requests, together with Corpoven Sub) and pursue such remedies. [CPH] shall diligently pursue any such proceedings commenced and any net proceeds received by [CPH] as a result of such pursuit, net of legal fees and costs, shall be applied against any amounts ultimately determined to be owing by Corporven Sub to [CPH] or reimbursed to Corpoven Sub if Corpoven Sub has previously made payments to [CPH] in respect of such Discriminatory Action.
>
> (b) Notwithstanding the pendency of formal legal proceedings, if any, in the event that any Foreign Party believes that it has suffered a Material Adverse Effect in any Fiscal Year as the result of actions in respect of which it had delivered Notices of Discriminatory Action, such Party shall be entitled to give notice to that effect (a "Notice of Triggering Event") to Corpoven Sub; provided that each Party will be entitled to deliver only one Notice of Triggering Event during each Fiscal Year of the Association.
>
> (c) Upon delivery of a Notice of Triggering Event, Corpoven Sub and the Claiming Party shall enter into good faith negotiations regarding whether each of the actions in respect of which a Notice of Discriminatory Action had been delivered was, in fact, a Discriminatory Action (to the extent such issue had not been previously agreed upon by Corpoven Sub and the Claiming Party or determined by arbitration in prior years) and whether the Claiming Party had suffered a Material Adverse Effect. If Corpoven Sub and the Claiming Party agree that a Discriminatory Action resulting in a Material Adverse Effect has occurred, and that the Claiming Party is thus an Affected Party, the Parties shall enter into good faith negotiations regarding the

[100] *Supra*, § 103.

[101] *Infra*, § 553.

> Amendments; provided that the Amendments shall not result in a cost to Corpoven Sub exceeding the Damages actually suffered by the Affected Party (or, if more than one Party is an Affected Party, the Affected Parties).[102]

4. Analysis

110. In light of the relevant contractual provisions of both AAs cited above, and subject to the further analysis on liability that follows, it is the Tribunal's understanding that, broadly speaking, a DA exists where a given measure(s) is/are: (i) "**discriminatory**"; and (ii) "**unjust"** as a result of causing either SED or MAE.[103]

111. In this context, the Tribunal first notes that the Parties agree that the Income Tax Increase, the Royalty Measure, the Extraction Tax and the Expropriation all represent either: (i) "actions, decisions, or changes in law, adopted by [Venezuelan] national, state, or municipal, administrative, or legislative authorities";[104] or (ii) "change[s] of Venezuelan national, state or municipal law, or [acts] or action[s] with force of law, act[s] of government (*actos de gobierno*), or action[s] or decision[s] of any Venezuelan national, state or municipal legislative or administrative authority (including any such action or decision resulting in a change in interpretation or application of Venezuelan law)".[105] Accordingly, all of the foregoing qualified measures fall under the purview of the relevant DA provisions of both AAs.[106]

112. The Claimants put forward two sets of qualified measures that, in their view, constitute DAs: the Income Tax Increase and the Overall Expropriation, the latter being comprised of the Royalty Measure, the Extraction Tax and the Expropriation.

113. As to the Respondents, they dispute the Claimants' position. Overall, it is the Respondents' contention that the Royalty Measure and the Extraction Tax cannot be cumulatively assessed with the Expropriation.[107] That said, the Respondents acknowledge that the Expropriation in and of itself constitutes a discriminatory and unjust measure (i.e. an independent DA).[108]

---

[102] Hamaca AA, **C-3**, Article 14.3.

[103] For further analysis of these two criteria, *see infra,* §§ 131-133, 162.i-162.ii.

[104] Petrozuata AA, **C-1**, Section 1.01.

[105] Hamaca AA, **C-3**, Article 14.1(b).

[106] C-PHB, §§ 60, 74, 83, 85; R-PHB, §§ 492, 495-496; 2006 Income Tax Law, **C-145**; 2007 Nationalization Decree, **R-4**; Law on Partial Reform of Decree No. 1.510 (Extraction Tax), **R-15**; 2004 Royalty Measure, **R-12**.

[107] *Infra,* § 116.

[108] *Supra,* § 96.

114. Thus, based on the Parties' outstanding submissions and contentions, the Tribunal must answer the following questions in connection with the DA claims:

a. Does the Overall Expropriation comply with the **first prong** for a qualified measure to be deemed a DA? Accordingly, is the Overall Expropriation (or its constitutive measures in dispute, namely, the Royalty Measure and/or the Extraction Tax) "**discriminatory**"?[109]

b. Does the Income Tax Increase comply with the **first prong** for a qualified measure to be deemed a DA? Accordingly, is the Income Tax Increase "**discriminatory**"?[110]

c. Does the Income Tax Increase and/or the Overall Expopriation (or its constitutive measures in dispute) comply with the **second prong** for a qualified measure to be deemed a DA? Accordingly, are the Income Tax Increase and/or the Overall Expropriation (or its constitutive measures in dispute) "**unjust**" for causing SED or MAE?

d. Were the Claimants required to notify the Respondents that, in their view, the Overall Expropriation (or its constitutive measures) and the Income Tax Increase constituted DAs? If so, have the Claimants complied with the notification requirement? If not, what are the consequences of such non-compliance?

e. Were the Claimants required to exhaust local and administrative remedies? If so, have the Claimants complied with this requirement? If not, what are the consequences of such non-compliance?

115. The Tribunal now turns to the discussion of each of these issues.

a. *First prong for a qualified measure to be deemed a DA: the alleged discriminatory nature of the Overall Expropriation*

116. The Respondents concede that the Expropriation, effected by means of the 2007 Nationalization Decree, constitutes a DA under both AAs.[111] The issue in dispute between the Parties is thus whether the Overall Expropriation (i.e. the Royalty

[109] *Supra,* § 110.

[110] *Supra,* § 110.

[111] *Supra,* § 96.

Measure, the Extraction Tax and the Expropriation taken together) should also be characterized as such.

117. For the Claimants the issue is clear: the Overall Expropriation constitutes a compensable DA pursuant to which the Respondents are required to indemnify the Claimants for the losses suffered.[112] However, the Tribunal observes that the arguments raised by the Claimants in this context vary considerably depending on whether the Overall Expropriation issue is to be assessed under the Petrozuata AA or the Hamaca AA. For the sake of consistency, the Tribunal will follow the Claimants' underlying structure with respect to this argument. Hence, it will assess the alleged discriminatory nature of the Overall Expropriation under each AA separately.[113]

i. Under the Petrozuata AA

118. The Claimants allege that they were subjected to "one deliberate, coordinated campaign […] designed […] to lead to the burial of the AAs […]".[114] In support of this assertion, the Claimants refer to Chávez's 2007 Speech equating the Royalty Measure and the Extraction Tax with progressive "steps" leading-up to the Expropriation.[115] The Claimants also refer to the academic opinion of Ms. Rondón de Sasó (former judge of the Venezuelan Supreme Court and legal adviser to PDVSA), describing the abovementioned succession of qualified measures as, *inter alia,* "intended" and "established" to "eliminate the [AAs]".[116]

119. With this factual matrix in mind, the Claimants submit that "each of these coordinated steps (the successive fiscal measures, and the final dispossession) must be considered a constituent part of the Expropriation, thus rendering the [Overall Expropriation] — and not just the Projects' physical confiscation — a Discriminatory Action […]".[117]

120. In the Claimants' view, the characterization of the Overall Expropriation as a DA is recognized in "express terms" by the Petrozuata AA[118] due to the following two

[112] C-PHB, § 85.

[113] The Tribunal will, however, make certain necessary (cross) references to the Hamaca AA when dealing with the Petrozuata AA, and vice-versa. *See infra,* fn. 136, § 162.

[114] C-PHB, § 95.

[115] C-PHB, § 95; Chávez 2007 Speech, **C-197**, pp.3, 6-7.

[116] C-PHB, § 96.

[117] C-PHB, § 97; SoD, §§ 240-246; Reply §§ 170-178.

[118] C-PHB, § 87.

reasons. First, the *chapeau* of Section 1.01 of the AA allows the consideration of qualified measures "in combination" for the purposes of assessing whether they can be defined as a DA.[119] Second, and contributing to the definition of DA, the Claimants emphasize that Section 1.01(a)(3) of the AA reads as follows:

> [T]reatment may nevertheless be discriminatory, if, after *analysing globally all actions, decisions and changes in law* that have been *adopted in parallel or within a reasonable period of time*, such actions, decisions and changes in law resulted in economic damage to the shareholders of the Company […].[120]

121. Relying on Mr. van Wageningen's testimony, the Claimants explain that the aforesaid definition was designed to protect them from "death by a thousand cuts".[121] As stated by Mr. van Wageningen at the Hearing, the Claimants:

> [W]anted to make sure that the concept was that you might have an individual Discriminatory Action, but you could also amalgamate several circumstances and events which, together or globally, would create a Discriminatory Action. That was our intent when we drafted it.[122]

122. The Claimants thus explain that the Royalty Measure, the Extraction Tax, and the Expropriation, jointly, constitute an Overall Expropriation falling under the definition of DA because: (i) each of these measures were intended to progressively affect the value of the Projects, paving the way for the Expropriation to take place (a qualified measure that the Respondents concede constitutes a DA); and (ii) the terms "in combination" and "analysing globally" contained in Section 1.01 of the Petrozuata AA explicitly permit such a cumulative approach.

123. The Respondents, on the other hand, stress that, in line with the Claimants' own concessions, neither the Royalty Measure nor the Extraction Tax can be categorized as DAs on a stand-alone basis.[123] Consequently, the aggregation of non-DAs (and presumably, the aggregation of non-DAs with a DA such as the Expropriation) cannot create a distinct DA. In the Respondents' words, "one apple and one orange do not equal two apples".[124]

124. According to the Respondents, the Claimants have misconstrued the way qualified measures can be aggregated for the purposes of obtaining compensation for the

[119] C-PHB, § 92(a).

[120] C-PHB, §§ 87 (emphasis added by the Claimants), 92(a).

[121] van Wageningen WS I, **CWS-1**, § 22.

[122] Tr. (Day 3), 714:10-15 (van Wageningen).

[123] R-PHB, fn. 1009.

[124] Rejoinder, § 320.

harm caused by a DA. In support of their argument, the Respondents rely in particular on the definition of SED set forth in Sections 9.07 and 1.01 of the Petrozuata AA.

125. As to Section 9.07 of the Petrozuata AA, the Respondents recall that only if Conoco suffers SED "as a result of any Discriminatory Action" could it be compensated "for the economic damage suffered as a result of the Discriminatory Actions".[125] Thus "there can be no genuine dispute that compensation under the Compensation Provisions is payable only for 'Discriminatory Actions' […]. [*A contrario*] no compensation of any kind is provided for governmental measures that are not 'Discriminatory Actions'".[126]

126. With the foregoing in mind, the Respondents point next to Section 1.01 of the Petrozuata AA, which defines SED as "economic damage arising as a result of Discriminatory Actions during any fiscal year, which amounts to at least USD $6.5 million […] for all Class B Shareholders".[127] In light of this provision, they argue that both AAs contain "*de minimis* exceptions to the State company's obligation to compensate the private party for governmental actions, meaning that if the impact of 'Discriminatory Actions' is below the threshold, no compensation is granted".[128] Thus, again referring to an *a contrario* argument, the Respondents explain that compensation is not payable unless the "total" economic damage arising as a result of a DA causes harm above USD 6.5 million.[129] In other words, the Petrozuata AA does allow for accumulation, but only with respect to damages resulting from qualified measures previously characterized as DAs—"it does not allow for the accumulation of economic damage resulting from non-Discriminatory Actions", such as the Royalty Measure and the Extraction Tax.[130] Any other conclusion would uphold the absurd proposition that non-DAs can also be compensable.[131]

127. In support of their argument, the Respondents also rely on Mr. Wageningen's testimony. Putting the Claimants' allegory of "death by a thousand cuts" in context,[132]

[125] Petrozuata AA, **C-1**, Section 9.07 (emphasis added by the Respondents); R-PHB, fn. 1010.

[126] R-PHB, § 495.

[127] Petrozuata AA, **C-1**, Section 1.01 (emphasis added by the Respondents); R-PHB, fn. 1052.

[128] R-PHB, § 517.

[129] R-PHB, § 518.

[130] R-PHB, § 518.

[131] Rejoinder, § 316.

[132] *Supra*, § 121.

the Respondents refer to Mr. van Wageningen's witness statement recounting the negotiation of Petrozuata's DA provisions:

> In negotiating the DA provisions, Conoco was careful to ensure that both individual and cumulative harm from Government actions would be covered. In light of my experience with other projects in many different countries, I was concerned about the risk of "**death by a thousand cuts**", meaning a number of individual acts by the Government (at whatever level), which when taken together had a significant adverse effect on Conoco's investments in the Project. **As I wrote to Dr. Carrillo during the negotiations: "we want to make sure that Significant Economic Damage be cumulative because [Conoco] can be damaged bit by bit by events, circumstances or legal legislative actions each of which by itself would not consist of Significant Economic Damage, but cumulatively would make our continued involvement untenable.**[133]

128. On the basis of the above testimony, the Respondents conclude that, in accordance with both the text and negotiating history of the Petrozuata AA, the cumulative approach suggested by the Claimants is only germane to facilitate surpassing the *de minimis* threshold required for establishing SED. Hence, while the aggregation of damages from qualified measures is permitted, the said measures must first and foremost satisfy the conditions to constitute a DA. The Petrozuata AA does not contemplate or permit the aggregation of damages resulting from non-DAs. Therefore, the characterization of the Overall Expropriation as a compensable DA must be rejected.

129. As discussed further below, the Tribunal agrees with the Respondents' general conclusion that the notion of DA under the Petrouzuata AA does not allow for the aggregation of non-DAs in a way that would render these separate measures a compensable DA. That said, and as also observed by the Claimants, the Respondents' position chiefly focuses on the definition of SED. Therefore it does not directly engage with the Claimants' main argument which is based on the definiton of Discriminatory Action and which focuses on the meaning of the terms "in combination" and "analysing globally".[134]

[133] van Wageningen WS I, **CWS-1**, § 22 (emphasis added). The Respondents further refer to the letter quoted therein, sent by Mr. van Wageningen to Mr. Tomás Carrillo (Maraven's Manager of International Legal Affairs). The relevant full paragraph of that letter (and not only the excerpt quoted in Mr. van Wageningen's witness statement), reads as follows: "Finally, we want to make sure that Significant Economic Damage be cumulative because Conven can be damaged bit by bit by events, circumstances or legal legislative actions each of which by itself would not consist of Significant Economic Damage, but cumulatively would make our continued involvement untenable. The benchmark for such cumulative damages should be the economic and legal conditions at the Effective Date of the HOP with all subsequent economic damage accumulated until it meets the threshold of Significant Economic Damage" (**C-27/12**; R-PHB, § 516).

[134] C-PHB, § 92.

130. On the other hand, however, the Tribunal also observes that the Claimants' main argument does not analyze these two key terms of Section 1.01 in their proper context: the Claimants pay insufficient regard to the fact that the term "in combination" finds itself in the *chapeau* of Section 1.01, while the term "analyzing globally" only appears in Section 1.01(a)(3). For the reasons given in the analysis below, the Claimants' cumulative approach is therefore unpersuasive.

131. The *chapeau* of Section 1.01 of the Petrozuata AA states that, for DAs to exist, qualified measures, "singly or in **combination**, [must] result in **unjust discriminatory** treatment".[135] In other words, qualified measures must be *both* "**unjust**" and "**discriminatory**" in order to be considered as DAs, this being the core of the definition of DA set forth in Section 1.01, particularly considering that the terms "unjust" and "discriminatory" are both given content in the remainder of the provision.[136]

132. As to the term "unjust", the Petrozuata AA expressly links it to the notion of SED. The last paragraph of Section 1.01 explicitly states that, "for the purpose of [the definition of DAs], treatment shall be considered unjust if it results in [SED] and such [SED] is subject to compensation under the terms of Section 9.07 of this Agreement".[137] Indeed, throughout the entire Petrozuata AA, the term "unjust" is only defined by way of what amounts to SED, nothing else.[138]

133. As to the issue of what comprises "discriminatory" treatment, it is considerably less straightforward, as it appears to be contingent on the type and scope of the qualified measure in question. If the qualified measure is general and does not fall within any of the categories below,[139] then treatment shall be considered discriminatory only if the measure is not "applicable to all enterprises in Venezuela".[140] In turn, if the qualified measure:

---

[135] Petrozuata AA, **C-1**, Section 1.01 (emphasis added); *supra,* § 100.

[136] As explained in further detail below when addressing the Hamaca AA (*infra,* §§ 162.i-162.ii), it is worth noting that if the terms "unjust" and "discriminatory" of Section 1.01 of the Petrozuata AA are read as constituting the basis of what can be deemed a DA under the Petrozuata AA, then there are no significant differences between the AAs in terms of their definition of DA.

[137] Petrozuata AA, **C-1**, Section 1.01 (emphasis added); *supra,* § 102.

[138] The Claimants themselves identify the same connection between the "unjust" criteria and SED, when they state that a measure is unjust if it results in SED (C-PHB, §§ 65-67).

[139] *Infra*, §§ 133.i-133.iv.

[140] Petrozuata AA, **C-1**, Section 1.01, *Chapeau*.

i. concerns income taxes,[141] the declaration or repatriation of dividends,[142] the right to hold abroad the proceeds of the sale of Upgraded Crude Oil in non-Venezuelan currency,[143] or the unencumbered convertibility of non-Venezuelan currency into Venezuelan currency (and vice versa),[144] "the treatment shall be discriminatory if not generally applicable to most enterprises in Venezuela";

ii. is adopted with respect to municipal taxes, the "treatment shall be considered discriminatory if the tariff rate applicable is higher than the highest tariff rate applicable to the industrial activity classification(s), as agreed by the Parties […]";[145]

iii. entails treatment adopted for the purpose of implementing technical or operational regulations relating to safety or the protection of the environment, it "shall not be considered discriminatory";[146]

iv. entails treatment equally applicable to enterprises within the oil industry in Venezuela, "it shall not be considered discriminatory",[147] except if, "after **analyzing globally** all [qualified measures] that have been adopted **in parallel or within a reasonable period of time**, such [qualified measures] resulted in economic damage to the shareholders of [Petrozuata C.A.], that was **not actually** suffered by government owned companies within the oil industry, **or**, if suffered by government owned companies within the oil industry, the negative impact on [Petrozuata C.A.] **is disproportionately onerous as compared to the government owned companies within the oil industry**, [in which case the treatment may "nevertheless be discriminatory"]".[148]

134. It is with the foregoing in mind that the Tribunal can properly assess the allegedly "express terms" on which the Claimants rely as the basis for their cumulative

[141] Petrozuata AA, **C-1**, Section 1.01(a)(1); *infra,* § 188

[142] Petrozuata AA, **C-1**, Section 1.01(a)(2)(i).

[143] Petrozuata AA, **C-1**, Section 1.01(a)(2)(ii).

[144] Petrozuata AA, **C-1**, Section 1.01(a)(2)(iii).

[145] Petrozuata AA, **C-1**, Section 1.01(b).

[146] Petrozuata AA, **C-1**, Section 1.01(c).

[147] Petrozuata AA, **C-1**, Section 1.01(a).

[148] Petrozuata AA, **C-1**, Section 1.01(a)(3) (emphasis added).

approach to DAs.[149] The Tribunal first observes that the *chapeau* of Section 1.01 of the Petrozuata AA does envision that qualified measures may, “singly or in combination”, result in “unjust” discriminatory treatment. Given the explicit link between the term “unjust” and the notion of SED, the same logic should extend to the latter, namely, a series of qualified measures can be considered in the aggregate to determine whether SED has taken place, and thus whether the *de minimis* threshold of USD 6.5 million has been surpassed. In light of the Respondents’ position that SED can arise cumulatively,[150] it appears that this is a minimum common denominator between the Parties.[151]

135. The key issue is hence whether the *chapeau* of Section 1.01 of the Petrozuata AA also permits that a series of qualified measures may, “in combination”, result in “discriminatory” treatment. For the Tribunal, the answer is yes, although this finding does not necessarily support the Claimants’ Overall Expropriation DA claim.

136. The cumulative approach to discriminatory treatment foreshadowed in the *chapeau* of Section 1.01 is only further endorsed by the term “analyzing globally” in Section 1.01(a)(3) of the Petrozuata AA. No other part of Section 1.01 contains language enabling either the Parties (under Section 9.07(e)) or a decision-maker (under Section 13.16) to globally consider a series of qualified measures for the purposes of concluding whether they constitute DAs on the grounds of being discriminatory. The Claimants themselves admit that their argument is mostly based on the reference to “in combination” in the *chapeau* and the reference to “analyzing globally” in Section 1.01(a)(3).[152]

137. It follows that, while the *chapeau* indeed suggests that all qualified measures can be considered “in combination”, Section 1.01(a)(3) circumscribes that prerogative to those measures that, *ab initio*, “equally appl[y] to the enterprises within the oil industry”, but that, in effect, do not. In other words, as discussed further below,[153] Section 1.01(a)(3) focuses on the *cumulative effect* of formally non-discriminatory qualified measures in order to asses whether, analyzed together, the accorded final treatment is discriminatory. Such a construction is in line with the overall structure of Section 1.01 of the Petrozuata AA.

[149] *Supra*, §§ 120, 122.

[150] *Supra*, § 128.

[151] C-PHB, §§ 87-89.

[152] C-PHB, § 92(a).

[153] *Infra*, § 144.

138. Generally speaking, all other categories of qualified measures are either: (i) not discriminatory;[154] (ii) discriminatory if not generally applicable to all/most enterprises in Venezuela;[155] or (iii) discriminatory if at odds with a technically defined standard.[156] Against either of these explicit benchmarks, it would have been unnecessary for the Parties to agree to a cumulative approach. In turn, if the purpose is to draw a distinction between those qualified measures that, on their face, "equally appl[y] to the enterprises within the oil industry" (which, in principle, "shall not be considered discriminatory"),[157] from those measures that do not entail equal treatment even within the Venezuelan oil industry, then taking all the relevant qualified measures in the aggregate is entirely sensible.

139. It is in light of the above that the Claimants' reliance on Section 1.01(a)(3) of the Petrozuata AA lacks context. The Claimants argue that "[u]nder the *Petrozuata AA*, the definition of 'Discriminatory Actions' states how measures qualify as Discriminatory Actions, before addressing the second question of whether they meet the separate qualification of crossing over the value threshold of Significant Economic Damage".[158] Then, referring to Section 1.01(a)(3), the Claimants contend that the "definition of [DAs] provides: [T]reatment may nevertheless be discriminatory, if, after *analyzing globally all* [qualified measures] that have been *adopted in parallel or within a reasonable period of time*, such [qualified measures] resulted in economic damage to the shareholders of the Company […]".[159]

140. Nevertheless, it is not accurate to say that a qualified measure must first be deemed a DA before assessing whether it has caused a SED. As already established, a qualified measure may constitute a DA precisely because it is "unjust" and, as such, entails SED.[160] Further, as seen, Section 1.01(a)(3) does not define what is understood as a DA under the Petrozuata AA.[161] It only deals with one of the two requirements thereof, namely, discriminatory treatment. It limits itself to cater for what can constitute discriminatory treatment in cases where the qualified measures at

---

[154] *Supra*, § 133.iii.

[155] *Supra*, §§ 133 - 133.i.

[156] *Supra*, § 133.ii.

[157] Petrozuata AA, **C-1**, Section 1.01(a).

[158] C-PHB, § 87 (emphasis and editions by the Claimants).

[159] C-PHB, § 87 (emphasis by the Claimants, brackets by the Tribunal).

[160] *Supra*, § 131-132. As developed below (*infra,* § 162.ii), the same structure is followed by the Hamaca AA in the context of MAE.

[161] *Supra*, § 133, 133.iv.

stake are applicable to the Venezuelan oil industry. Moreover, Section 1.01(a)(3) is rather specific as to the categories of qualified measures to which it applies to. In other words, while it allows for taking qualified measures in the aggregate for discrimination purposes, Section 1.01(a)(3) clearly specifies the way in which a global analysis is to take place.

141. As the Claimants point out, Section 1.01(a)(3) treatment may nevertheless be discriminatory if, after "analyzing globally", a series of qualified measures "adopted in parallel or within a reasonable period of time" result in "economic damage to the shareholders of the Company".[162] The Claimants' analysis stops here; however, Section 1.01(a)(3) does not.

142. Section 1.01(a)(3) goes on to distinguish two categories of "economic damage" (which is a concept different to that of SED) against which the qualified measures in question can be "analyz[ed] globally". The first category consists of "economic damage" that "was **not actually** suffered by government owned companies within the oil industry".[163] The second category contemplates "economic damage" which might have also been "suffered by government owned companies within the oil industry, [but where] the negative impact on [Petrozuata C.A. was] **disproportionately onerous** as compared to the government owned companies within the oil industry".[164] Thus, if either of these "economic damage[s]" is ascertained as a result of a cumulative/global analysis of the relevant qualified measures in question (i.e., those "adopted in parallel or within a reasonable period of time"), they could be deemed discriminatory despite being, facially, "equally applicable to enterprises within the oil industry in Venezuela".

143. As explained below,[165] it is therefore clear that the Claimants' Overall Expropriation DA claim is at odds with the standards set out in Section 1.01(a)(3) of the Petrozuata AA.

144. The text of Section 1.01(a)(3) only allows to controvert non-discriminatory qualified measures (i.e. that at the outset accord treatment equally applicable to enterprises within the oil industry in Venezuela) by way of their cumulative effect. Put differently, it is the effect of a series of qualified measures that renders them discriminatory. It is for

---

[162] *Supra*, §§ 120, 139.

[163] Petrozuata AA, **C-1**, Section 1.01(a)(3) (emphasis added).

[164] Petrozuata AA, **C-1**, Section 1.01(a)(3) (emphasis added).

[165] *Infra*, §§ 144-151.

this reason that Section 1.01(a)(3) provides two categories of "economic damages". In essence, the only relevant criteria to second-guess the non-discriminatory nature of a series of qualified measures is if their global analysis leads to the conclusion that the resulting "economic damage" (as defined in Section 1.01(a)(3)) is discriminatory. In fact, such an effects-based lodestar is not only incidental to Section 1.01(a)(3), but also to the entire Section 1.01 in the sense that regardless of the public qualified measures in question (income tax increase, repatriation of dividends, municipal taxes, etc.), it is the treatment (i.e. the effect) of that measure that makes it discriminatory.[166]

145. As far as the possibility of aggregating qualified measures is concerned, the intent behind the issuance of the said measures therefore seems irrelevant. To some extent, such understanding is consistent with Mr. van Wageningen's testimony. As highlighted by the Respondents,[167] Mr. van Wageningen's concern over the risk of "death by a thousand cuts" was mainly (if not exclusively) associated with the notion of SED. In particular, one of Mr. van Wageningen's concerns while negotiating the Petrozuata AA was to "make sure that **Significant Economic Damage** be **cumulative** because [Conoco] can be damaged bit by bit by events, circumstances or legal legislative actions each of which by itself would not consist of **Significant Economic Damage**, but **cumulatively** would make our continued involvement untenable".[168] While the foregoing only concerns the "unjust" requirement of DAs (i.e. the causation of SED), it caters to the finding that the cumulative analysis of qualified measures was not meant to be subjective.

146. Overall, the Claimants have failed to establish any textual basis or otherwise convincing argument with respect to the the Petrozuata AA, whereby the intention behind the adoption of a series of qualified measures should be considered to categorize them as DAs (be it for being discriminatory or unjust). Consequently, the Tribunal considers that the Claimants' reliance on President Chávez's 2007 Speech

---

[166] *Supra*, § 133.

[167] *Supra*, § 127.

[168] van Wageningen WS I, **CWS-1**, § 22; **C-27/12** (emphasis added). Tribunal gives preference to Mr. van Wageningen's witness statement over his oral testimony at the Hearing: (i) on this point, Mr. van Wageningen's witness statement is considerably more exhaustive than his oral testimony; (ii) when asked at the Hearing whether he wanted make any corrections to his witness statements, Mr. van Wageningen answered in the negative (Tr. (Day 3), 706:16-22); and (iii) in any event, the link between the risk of "death by a thousand cuts" and that of SED made in his witness statement is not flat out contrary to Mr. van Wageningen's understanding at the Hearing (Tr. (Day 3), 714: 10-15).

and Ms. Rondón de Sasó opinion is, in the context of the Petrozuata AA and its DA provisions, entirely inapposite.[169]

147. It follows that, considering the exclusive effects-based criteria in Section 1.01(a)(3), neither the Royalty Measure nor the Extraction Tax can be deemed discriminatory. "Analyz[ed] globally", both of these qualified measures were equally applicable to the enterprises within the Venezuelan oil industry. Moreover:

i. The Claimants have not argued, let alone demonstrated that the "economic damage" resulting from their cumulative application was "not actually suffered" by government owned companies within the oil industry. In fact, it appears undisputed that both the Claimants and all other private hydrocarbon operators, on the one hand, and PDVSA and its affiliates, on the other, were formally and materially subject to: (i) a 16.66% extraction tax from 2004 to 2006 (as a result of the Royalty Measure); and (ii) a 33.33% extraction tax from 2006 onwards (as a result of the Extraction Tax).[170]

ii. Likewise, the Claimants have failed to demonstrate that the "economic damage" resulting from their cumulative application was "disproportionately onerous" as compared to the one suffered by PDVSA, its affiliates, or any other government owned oil company.

148. The pivotal issue is then whether, in light of the Expropriation, the Royalty Measure and the Extraction Tax can nonetheless be deemed discriminatory. In the Tribunal's view, this question must be answered in the negative.

149. Section 1.01(a)(3) certainly permits assessing whether a series of *ab initio* non-discriminatory qualified measures generate discriminatory treatment as defined therein. However, such assessment must not be mistaken with an endorsement to aggregate non-discriminatory qualified measures with those that are discriminatory and, in fact, unquestionably so. There is nothing in the language of Section 1.01(a)(3), or in the entire Section 1.01 for that matter, that would permit the accumulation of non-discriminatory and discriminatory qualified measures: (i) to render non-discriminatory qualified measures discriminatory; or (ii) conversely, to

[169] *Supra*, § 118.

[170] R-PHB, § 261-267; 8 October 2004 Letter from Minister Ramírez to President Rodríguez of PDVSA, **R-12/C-106**, pp. 2-3, 12; 14 January 2005 Letter from Mr. Berry to Minister Ramírez, **R-14**, p.1; ICSID Hearing Transcript, **C-381**, pp 643:4-646:20; SoD, §§ 155-167; SoC, §§ 105-122; Legislative History of the Extraction Tax, National Assembly Session of 16 May 2006, **R-115**, pp 21-22.

extend the treatment of measures qualified as discriminatory to non-discriminatory measures.

150. Turning to the facts of the present case, it is evident that the effect of the Expropriation was distinct from the treatment accorded by the Royalty Measure and/or the Extraction Tax. It cannot be seriously argued that, because of the 2007 Expropriation, the "economic damage" caused by the Royalty Measure and/or the Extraction was not "actually suffered" by government owned companies.[171] It would be equally contrived to argue that, because of the Expropriation, the "economic damage" caused to the Claimants by the Royalty Measure and/or the Extraction Tax was, suddenly, "disproportionately onerous" as compared to the damage suffered by government owned companies.[172]

151. The crux of the Claimants' Overall Expropriation DA Claim is that the alleged coordinated intent behind the Royalty Measure, the Extraction Tax and the Expropriation is material for their cumulative analysis.[173] However, as seen, Section 1.01(a)(3) only allows for a cumulative assessment of qualified measures in light of an effects-based criterion.[174] On that footing, the Claimants' proposition is untenable: if non-discriminatory measures could be cumulatively assessed without paying due regard to their individual effect (as the Claimants seemingly suggest), then it would only take one measure clearly according discriminatory treatment to carry forward all damages caused by an undetermined number of preceding non-discriminatory measures. Such a counterintuitive interpretation would entirely circumvent the whole purpose of Section 1.01 of the Petrozuata AA. As the Respondents submit,[175] such a view leads to the absurd result that non-DAs could be deemed compensable: a position that the Tribunal cannot uphold.

152. For the reasons set out above, the Tribunal determines that the Royalty Measure and the Extraction Tax are not, individually, discriminatory under the Petrozuata AA, something that is not disputed by the Claimants.[176] The same conclusion stands even if these two measures are being "analyz[ed] globally" along with the Expropriation.

[171] *Supra*, § 147.i.

[172] *Supra*, § 147.ii.

[173] C-PHB, §§ 85-87.

[174] *Supra*, §§ 144-147.

[175] Rejoinder, § 316; *supra*, § 126.

[176] Tr. (Day 12), 2977:9-18 (Claimants' Closing Statement).

Consequently, the Overall Expropriation cannot be qualified as a discriminatory measure under the Petrozuata AA.

ii. Under the Hamaca AA

153. Building on the same factual premises laid out in the context of the Petrozuata AA,[177] the Claimants argue that the Overall Expropriation is a DA under the Hamaca AA. The textual base for the Claimants' claim is Article 14.1(b)(1) of the Hamaca AA. Rather than referring to criteria catering to a cumulative analysis of qualified measures (like under Section 1.01(a)(3) of the Petrozuata AA), Article 14.1(b)(1) of the Hamaca AA incorporates the concept of "expropriation" in its definition of DAs.[178]

154. In this regard, the Claimants refer to Mr. Manning's testimony, explaining that "Phillips wanted contractual indemnification from harmful effects of Government measures considered separately or all together".[179] The Claimants also stress that the AAs are governed by Venezuelan law, "which recognizes that expropriation can constitute a series of regulatory acts that together have the cumulative effect of depriving an investor of the use and enjoyment of her investment, even in the absence of a physical taking".[180] According to the Claimants, this "tracks international law jurisprudence, which confirms the concepts of 'creeping' and 'indirect' 'expropriation,' prohibiting constituent elements with the cumulative effect of expropriation, even if a single individual element may not alone rise to the level of being expropriatory".[181]

155. With reference to President Chávez's 2007 Speech and Ms. Rondón de Sasó's opinion,[182] the Claimants submit that the Royalty Measure, the Extraction Tax and the Expropriation were all part of a "deliberate [and] coordinated [expropriation]

---

[177] *Supra*, § 118.

[178] Hamaca AA, **C-3**, Section 14.1(b)(1) ("[A]ny change of Venezuelan national, state or municipal law, or any act or action with force of law, act of government, or action or decision of any Venezuelan national, state or municipal legislative […] in respect of […] the **expropriation of the assets of, or a Party's interest in, the Association** […] will be considered Discriminatory Actions […]") (emphasis added).

[179] C-PHB, § 90; Manning WS I, **CWS-2**, § 19.

[180] C-PHB, § 91.

[181] C-PHB, § 91. The Tribunal notes that, unlike the Petrozuata AA, the Hamaca AA does not incorporate specific language allowing for a cumulative analysis in order to assess the possible discriminatory nature of qualified measures (*see infra,* § 162.v). Conversely, unlike the Hamaca AA, the Petrozuata AA does not explicitly define an expropriation as a discriminatory qualified measure. In this context, the Tribunal understands that: (i) the Claimants' recourse to the term "expropriation" in Article 14.1(b)(1) of the Hamaca AA responds to the assumption that it permits undertaking a similar global analyisis as Section 1.01 of the Petrozuata AA; and (ii) the international and domestic law arguments regarding the notion of expropriation are mostly germane to the characterization of a series of qualified measures as discriminatory under the Hamaca AA, not under the Petrozuata AA.

[182] Chávez 2007 Speech, **C-197**, pp.3, 6-7; *supra*, § 118.

campaign".[183] As such, the first two measures "must be considered a constituent part of the Expropriation",[184] and, pursuant to Article 14.1(b)(1), the Overall Expropriation must be deemed a DA under the Hamaca AA.

156. The Respondents argue in response that the text of the Hamaca AA does not support the Claimants' "bizarre interpretation" that Article 14.1(b)(1) allows to characterize the Overall Expropriation as a DA. First, while Article 14.1(b)(1) lists an "expropriation of […] assets […] or […] interests" as a potential DA, royalties and taxes are treated separately.[185] Second, construing the term "expropriation" in Article 14.1(b)(1) so as to include the concepts of indirect and creeping expropriation is incorrect as a matter of Venezuelan and international law.[186]

157. With respect to Venezuelan law, the Respondents first draw a distinction between "expropriation", on the one hand, and "contributions, restrictions and obligations", on the other.[187] Against this framework, they highlight that, under Article 2 of the 2002 Expropriation Law,[188] and pursuant to the approach taken by the Venezuelan Supreme Court,[189] for an act to be considered expropriatory, it must involve: (i) the compulsory transfer of ownership or of any other right to the State's patrimony; (ii) a final judgment to that effect; and (iii) timely payment of just compensation.[190]

158. The Respondents then argue that measures that do not imply such compulsory transfer of title, but only specify the scope and duration of such title, are "'limitations', 'contributions', 'obligations' and 'restrictions', not expropriations".[191] On this basis, alluding to the Royalty Measure and the Extraction Tax, they submit that "not every diminution of property rights, abstractly considered, constitutes an expropriation".[192]

---

[183] C-PHB, § 95.

[184] C-PHB, § 97.

[185] R-PHB, § 498; Hamaca AA, **C-3**; Articles 14.1(b)(1), Section 14.1(b)(4).

[186] R-PHB, § 500

[187] R-PHB, § 501.

[188] Law of Expropriation for Reasons of Public Utility or Social Interest, García Montoya ER II, **RER-5 App. GM-180**, Article 2.

[189] *Supreme Court of Justice (Political-Administrative Chamber), Judgment dated February 24, 1965*, in Allan Randolph Brewer-Carías, LA EXPROPIACIÓN POR CAUSA DE UTILIDAD PÚBLICA O INTERÉS SOCIAL (1966), García Montoya ER II, **RER-5 App. GM-182**, p. 29.

[190] R-PHB, § 501; García Montoya ER II, **RER-5**, §§ 129-130.

[191] R-PHB § 501.

[192] R-PHB, § 502; Sebastian Martín-Retortillo, *Presentation*, in Allan R. Brewer-Carías, LA EXPROPIACIÓN POR CAUSA DE UTILIDAD PÚBLICA O INTERÉS SOCIAL (1966), García Montoya ER II, **RER-5 App. GM-187**, pp. 16-17.

159. The Respondents concede that measures may be considered "equivalent" in effect to expropriation. However, referring to the Claimants' own submissions, the Respondents emphasize that such equivalence can only be found if the measures at hand "have the cumulative effect of depriving an investor of the use and enjoyment of its investment, even in the absence of a physical taking".[193] By contrast, in the present case "there is no issue of 'creeping' or 'indirect' expropriation, as the Projects were formally and directly expropriated; nor is there any argument that the fiscal measures, either individually or in the aggregate, deprived the investor of the use and enjoyment of its investment".[194]

160. With reference to Venezuelan Supreme Court decisions,[195] the Respondents thus submit that fiscal measures (such as the Royalty Measure and the Extraction Tax) can only be deemed expropriatory if they constitute a "complete or unreasonable impairment" that "extinguishes" the taxpayer's patrimony.[196] Accordingly, given that despite each of the aforesaid qualified measures, the Projects were nonetheless much more profitable than had been anticipated at their inception,[197] the Claimants' creeping or indirect expropriation argument (i.e. the Overall Expropriation) is "laughable".[198]

161. Turning to international law, the Respondents rely on the award rendered in the *Mobil* case which, "considering the same fiscal measures that are at issue here",[199] stated as follows:

> [U]nder international law, a measure which does not have all the features of a formal expropriation may be equivalent to an expropriation if it gives rise to an effective deprivation of the investment as a whole. Such a deprivation requires either a total loss of the investment's value or a total loss of control by the investor of its investment, both of a permanent nature.
>
> It is undisputed that those conditions are not fulfilled in the present case with respect to either [of the Projects]. Accordingly, the pre-migration measures

[193] R-PHB, § 503, citing Reply, § 174.

[194] R-PHB, § 503.

[195] *Partial Nullity Action against the Ordenanza sobre Patente de Industria y Comercio del Municipio San Joaquín del Estado Carabobo*, Supreme Tribunal of Justice (Constitutional Chamber), Case No. 00-0833, Judgment dated March 6, 2001, García Montoya ER II, **RER-5 App. GM-189**, p.12

[196] R-PHB, § 504.

[197] R-PHB, §§ 506-509.

[198] R-PHB, § 510.

[199] R-PHB, § 505.

enumerated by the Claimants cannot be characterized as equivalent to an expropriation of the Claimants' investments.[200]

162. Before venturing into the analysis of the Parties' positions, the Tribunal deems it important to first make the following preliminary observations:

i. Similar to the Petrozuata AA,[201] the Hamaca AA defines DA as a qualified measure which is both: "(ii) unjust and (iii) [as a default comparator] not generally applicable to entities (both public and private) […] in the hydrocarbon industry in Venezuela [(i.e. discriminatory)]".[202]

ii. Like in the Petrozuata AA,[203] the term "unjust" in Article 14.1(b) of the Hamaca AA is given content by reference to the definition of MAE (which is equivalent to SED). Article 14.2(a) thus states that a qualified measure (or a series thereof) shall be considered "unjust" if it results, "individually or in the aggregate", in MAE.[204] No other provision in the Hamaca AA further develops the "unjust" requirement of Article 14.1(b). Hence, the notion of MAE is not a distinct component added to the general notion of DA as defined in the Hamaca AA. Rather, in order to potentially constitute a DA, the qualified measure in question must be deemed "unjust" as a result of causing MAE.

iii. Also in line with the Petrozuata AA,[205] the comparator for a qualified measure to be deemed discriminatory varies depending on the type of qualified measure in question. Article 14.1(b) establishes as its default comparator for discrimination purposes measures that are "not generally applicable to entities (both public and private) […] in the hydrocarbon industry".[206] Subject to the specific nature of a given measure, other relevant comparators include measures that are (i) not "generally applicable to corporations and other legal entities that are taxable in the same manner as corporations in Venezuela";[207] (ii) "not generally consistent with internationally recognized transfer pricing

[200] *Mobil v. Venezuela*, ICSID Case No. ARB/07/27, Award dated 9 October 2014, **RLA-2**, §§ 286-287.

[201] *Supra,* § 131.

[202] Hamaca AA, **C-3**, Article 14.1(b).

[203] *Supra,* § 132.

[204] Hamaca AA, **C-3**, Article 14.2(a).

[205] *Supra*, § 133.

[206] *Supra*, § 162.i.

[207] Hamaca AA, **C-3**, Article 14.1(b)(1), Article 14.1(b)(3); *infra*, § 189.

principles for taxation";[208] and (iii) "in excess of the maximum rate specified by law for the hydrocarbon industry in general".[209]

iv. The adequate comparator to assess whether an "expropriation" is discriminatory is whether it is not "generally applicable to corporations and other legal entities that are taxable in the same manner as corporations in Venezuela".[210] Article 14.1(b)(1) of the Hamaca AA appears to establish this comparator not only in order to determine if an "expropriation" is discriminatory, but, more broadly, to determine if a qualified measure is a DA.[211] Nonetheless, because Article 14.1(b)(1) conditions the characterization of an "expropriation" as a DA to a particular discriminatory comparator without excusing an "expropriation" from nonetheless being "unjust" (as defined in Article 14.2(a)),[212] the Tribunal finds that, essentially, Article 14.1(b)(1) only deals with a potential DA's discriminatory element.

v. Unlike the Petrozuata AA, the Hamaca AA does not have any explicit language catering for a cumulative or global analysis at the moment of assessing the discriminatory nature of a series of qualified measures. Indeed, it is only Article 14.2(a), dealing with the concept of MAE, which states that for the effects of discriminatory qualified measures to be unjust, they must ("individually or in the aggregate") cause a MAE.[213] For the Tribunal, the foregoing accommodates the argument that, in the negotiation of the AAs, the Claimants also wanted to avoid "death by a thousand cuts".[214] As seen with respect to the notion of SED in the Petrozuata AA (and having no reason to believe that the issue should be any different with respect to the notion of MAE in the Hamaca AA),[215] the Claimants' concern of "death by a thousand cuts" pertained to the economic consequences of qualified measures—not to their discriminatory nature. In this context, the Tribunal agrees with the

[208] Hamaca AA, **C-3**, Article 14.1(b)(2).

[209] Hamaca AA, **C-3**, Article 14.1(b)(4).

[210] Hamaca AA, **C-3**, Article 14.1(b)(1).

[211] Hamaca AA, **C-3**, Article 14.1(b)(1) ("any change of Venezuelan national, state or municipal law, or any act or action with force of law, act of government, or action or decision of any Venezuelan national, state or municipal legislative […] in respect of […] the expropriation of the assets of, or a Party's interest in, the Association or Association Entities, will be considered **Discriminatory Actions** if they are not generally applicable to corporations and other legal entities that are taxable in the same manner as corporations in Venezuela").

[212] *Supra,* § 162.ii.

[213] Hamaca AA, **C-3,** Article 14.2(a).

[214] R-PHB, § 100.

[215] *Supra*, § 145.

Respondents' position that, in the event certain qualified measures are deemed non-discriminatory, they cannot be aggregated in order to prompt the Respondents to accord compensation for the resulting MAE.[216]

vi. Again similarly to the Petrozuata AA, nothing in the Hamaca AA suggests that the intent behind a series of qualified measures is relevant for the purposes of determining whether said measures are either discriminatory or unjust. Thus, the Tribunal reiterates its view that the Claimants' reliance on the Chávez's 2007 Speech and Ms. Rondón de Sasó opinion is, under the Hamaca AA and its provision on DAs, inapposite.[217]

163. With the foregoing in mind, the Tribunal notes that the term "expropriation" in Article 14.1(b)(1) is not defined elsewhere in the Hamaca AA. Neither Party has submitted any evidence as to whether and, if so, why "expropriation" ought to be understood with due regard to the development of this concept under international (investment) law. In turn, Article 17.1 explicitly states that the Hamaca AA "shall be governed and construed in accordance with the law of the Republic of Venezuela".[218] In view of this, the Tribunal will leave open the relevance of the Parties' arguments on international investment law in the present context. Accordingly, insofar as the concept of "expropriation" is concerned, the Tribunal will primarily consider Venezuelan law. In any event, as developed further below,[219] the application of international law in the present context would not lead to a different result.

164. Precisely because the term "expropriation" is not defined in the Hamaca AA,[220] there is no contractual basis for construing it (without further reasons) as a taking which comprises multiple consecutive measures. The Tribunal has considered the Claimants' argument that nothing in the negotiating history of the Hamaca AA precludes that possibility either.[221] However, such an argument is self-serving. If the negotiating history is to be considered, the point is not whether it excluded the Claimants' purported understanding, but rather whether it can be said to include it. It is the Claimants that have the burden of proof in substantiating their assertion and they have failed to do so.

[216] Tr. (Day 12), 3044:7-22 (Respondents' Closing Statement).

[217] *Supra*, §§ 118, 145.

[218] Hamaca AA, **C-3**, Article 17.1.

[219] *Infra*, §§ 172-175.

[220] *Supra*, § 163.

[221] Reply, fn. 453.

165. More specifically, the Claimants have not supported their contention that under Venezuelan law: (i) the Claimants are entitled to compensation for "value-depressing measures" such as the Royalty Measure and the Extraction Tax;[222] or that (ii) an "expropriation can constitute a series of regulatory acts that together have the cumulative effect of depriving an investor of the use and enjoyment of her investment, even in the absence of a physical taking".[223]

166. The Tribunal also finds it telling that the Claimants have not referred to any Venezuelan statutory provisions or judicial decisions in support of their position. Instead, the authorities relied upon by the Claimants are all doctrinal writings, which in any event merely suggest that:

i. Under Venezuelan law, temporary or permanent occupation of residential or corporative property may amount to expropriation of that property if the proprietors are precluded from the "use, enjoy[ment] or convey[ance]" of their property.[224] Yet, such a view, closely related to the notion of indirect expropriation, is irrelevant to the case at hand. As is indeed evident, the Expropriation in the present case constitutes a classic example of direct expropriation. Moreover, it cannot be seriously suggested that the Royalty Measure and the Extraction Tax (individually or in the aggregate) could be equated with either a temporal or permanent: (i) occupation of the Projects; and/or (ii) deprivation of the Claimants' shareholder rights in the Projects.

ii. Depending on the circumstances, regulatory acts adopted by Venezuela could potentially be tantamount to expropriation in the context of international investment law, such as under Bilateral Investment Treaties concluded by Venezuela.[225] While this is generally uncontroversial, it is not clear how it is relevant to the present case.

167. Overall, the Tribunal finds that the Claimants have not rebutted the Respondents' arguments that: (i) the Projects were formally and directly expropriated by way of the Expropriation, rather than through a series of qualified measures whose cumulative effects were equivalent to a physical taking (i.e. indirect or creeping expropriation);

[222] C-PHB, fn. 124.

[223] R-PHB, fn. 131.

[224] Antonio Canova González, Luis Alfonso Herrera Orellana and Karina Anzola Spadaro, EXPROPRIATIONS OR DE FACTO TAKEOVER MECHANISMS? (2009), **CLA-52,** pp. 161-165

[225] José Gregorio Torrealba, PROMOTION AND PROTECTION OF FOREIGN INVESTMENTS IN VENEZUELA (2008), **CLA-51**, pp. 83-87, 92, 102.

and (ii) neither the Royalty Measure nor the Extraction Tax, individually or in the aggregate, precluded the Claimants from operating the Projects pursuant to the AAs.[226]

168. In other words, the Claimants have failed to justify the proposition that, under Venezuelan law: (i) an uncontested direct "expropriation" (such as the Expropriation) should somehow account for preceding non-expropriatory qualified measures; (ii) the Expropriation *ex post facto* transforms the Royalty Measure and the Extraction Tax into constitutive elements of a progressive "expropriation" culminating with the Expropriation (i.e. the Claimants' Overall Expropriation DA claim); or (iii) conversely, that the Expropriation, despite being an outright "expropriation", should be deemed nothing more than one constitutive element of the Overall Expropriation.

169. Indeed, it appears that the Royalty Measure and the Extraction Tax are nothing more than "limitations", "contributions", "obligations", and/or "restrictions" in relation to property.[227] As explained by the Respondents' legal expert, Prof. García Montoya, these concepts are well established in Venezuelan law and suggest that the very notion of property rights presupposes the imposition of certain burdens on the title holder.[228] In fact, in a publication pre-dating the current Venezuelan Constitution, Prof. Brewer-Carías, one of the Claimants' legal experts, had also adopted the view that property rights are not unfettered under Venezuelan law.[229] According to Prof. García Montoya, this is particularly the case when the impact on the property right stems from the State's prerogative to adopt fiscal measures, as long as the exercise of such power does not result in the confiscation of the right in question.[230] In this context, the Tribunal notes in passing that the safeguard against confiscatory taxation is to be found in Article 317 of the Venezuelan Constitution,[231] not in Article 115, which grants the right to property and conditions expropriation to "reasons of public

[226] *Supra*, § 159; *infra*, §§ 169-170.

[227] *Supra*, §§ 157-158.

[228] García Montoya ER II, **RER-5**, §§ 130-132.

[229] Allan R. Brewer-Carias, *Current Status of Property Rights and Economic Freedom in Venezuela*, in ESTUDIOS SOBRE LA CONSTITUCIÓN Vol.II (1979), García Montoya ER II, **RER-5 App. GM-186**, p. 1159 ("Limitations on the exercise of property rights, of course, not only presuppose that the right exists, but also do not affect title ownership of the right. Moreover, these limitations constitute the normal context of ownership, that is to say, **they constitute the normal regime applicable to property rights**. Through them the property title owner knows the extent of his rights and claims regarding the use, enjoyment and disposition of the same") (emphasis added).

[230] García Montoya ER II, **RER-5**, §§ 133-135.

[231] 1999 Constitution, **R-208**, Article 317 ("No tax shall have a confiscatory effect").

utility or social interest, by final judgment and timely payment of just compensation".[232]

170. The Claimants do not openly contest the Respondents' characterization of the Royalty Measure and the Extraction Tax as *ab initio* limitations on property rights. Indeed, given the concession made by Mr. Heinrich that, before the Expropriation, the Claimants' profits had exceeded their initial expectations despite the adoption of the Royalty Measure and the Extraction Tax, an argument to the contrary would be unfathomable.[233] Instead, the Claimants briefly argue that the Respondents' distinction between "expropriation", on the one hand, and "contributions, restrictions and obligations", on the other, "miss[es] the point".[234] According to the Claimants, this is so because they "do not and have never argued that the individual fiscal measures were expropriatory by themselves [but] that the measures together formed part of one campaign of expropriation. And […] Venezuelan law […] recognize[s] that the concept of expropriation may take such connected measures into account".[235]

171. However, as already explained above, the Claimants have not demonstrated that Venezuelan law lends support to their position. In particular, the Claimants have not demonstrated: (i) why, under Venezuelan law, the Royalty Measure and the Extraction Tax should loose their status as mere limitations to property with the issuance of the Expropriation; and (ii) why, in light of the Expropriation, the Royalty Measure and the Extraction Tax should be deemed an "expropriation" under Venezuelan law despite the fact that the protection against confiscatory taxation has a distinct legal basis.[236] Put simply, the Claimants have failed to establish that the Overall Expropriation constitutes an "expropriation" in accordance with Article 14.1(b)(1) of the Hamaca AA or, more generally, under Venezuelan law.

172. The Tribunal's conclusion is no different even after considering the Parties' arguments on international (investment) law. With reference to *Crystallex*[237] and *Phillips*,[238] the Claimants submit that, through the notions of "creeping" and "indirect"

[232] 1999 Constitution, **R-208**, Article 115.

[233] Tr. (Day 2), 483:19-486:4, 502:6-504:25 (Mr. Heinrich); R-PHB, § 510.

[234] C-PHB, § 498.

[235] C-PHB, § 498.

[236] *Supra*, fn. 231, 232.

[237] *Crystallex v Venezuela,* ICSID Case No. ARB(AF)/11/2, Award of 4 April 2016, **CLA-69** (hereinafter, "*Crystallex*");

[238] *Phillips Petroleum Company Iran v The Islamic Republic of Iran and The National Iranian Oil Company*, 21 IRAN-U.S. C.T.R. 79, Award No. 425-39-2 of 29 June 1989, **CLA-11** (hereinafter, "*Phillips*").

expropriation, "international law jurisprudence" prohibits "constituent elements with the cumulative effect of expropriation, even if a single individual element may not alone rise to the level of being expropriatory".[239] The Claimants are right. In both *Crystallex* and *Phillips* it was held that expropriation may be attained through the adoption of a series of non-expropriatory measures whose effect is, retrospectively and in the aggregate, expropriatory.[240] However, despite putting forward a legally correct conclusion, the precedential value that the Claimants seek to derive from these two cases is besides the point.

173. Creeping and indirect expropriation are well established concepts in international (investment) law. Further one may leave aside for the sake of reasoning whether these concepts would apply (and under what kind of adjustments) in a contractual context. However, neither *Crystallex* nor *Phillips* dealt with a series of non-expropriatory measures culminating with one clear and outright formal direct expropriation, as in the case at hand. As argued by the Respondents, "there is no issue of 'creeping' or 'indirect' expropriation [in the present case], as the Projects were formally and directly expropriated; nor is there any argument that the fiscal measures, either individually or in the aggregate, deprived the investor of the use and enjoyment of its investment".[241] Differently stated, it was the Expropriation, not the Royalty Increase or the Extraction Tax, which deprived the Claimants of their investment in Venezuela. As such, only the Expropriation could ultimately be deemed contrary to international law under the generally recognized standard protecting foreign investors against unlawful expropriation. Because the Expropriation can be characterized as an independent wrongful act, the Royalty Increase and the Extraction Tax, together with the Expropriation, are precluded from giving rise to one composite wrongful act under the same standard.

174. In any event, as argued by the Respondents, "it is actually quite elementary under international law that a fiscal measure or even a series of fiscal measures cannot be considered expropriatory unless they virtually bankrupt the company, and it is

---

[239] Reply, § 276; C-PHB, § 91. The Claimants also refer to the writings of Reisman and Sloane to support their conclusion. *See* W. Michael Reisman and Robert D. Sloane, INDIRECT EXPROPRIATION AND ITS VALUATION IN THE BIT GENERATION, FACULTY SCHOLARSHIP SERIES (2004), **CLA-88**, pp. 123-124 ("Discrete acts, analyzed in isolation rather than in the context of the overall flow of events, may, whether legal or not in themselves, seem innocuous *vis-à-vis* a potential expropriation. Some may not be expropriatory in themselves. Only in retrospect will it become evident that those acts comprised part of an accretion of deleterious acts and omissions, which in the aggregate expropriated the foreign investor's property rights.").

[240] *Crystallex*, **CLA-69,** §§ 700-705; *Phillips*, **CLA-11**, §§ 89-101.

[241] R-PHB, § 503.

undisputed that the 2004 Royalty Measure and the Extraction Tax did not come close to that".[242]

175. In sum, the Claimants' argument that the Overall Expropriation ought to be considered as an "expropriation" pursuant to Article 14.1(b)(1) of the Hamaca AA, fails both under Venezuelan and international law.

176. The foregoing is dispositive of the issue in favor of the Respondents. Nevertheless, for the sake of completeness the Tribunal will also address the Respondents' argument that the Hamaca AA deals separately with the notions of "expropriation" and "royalties"; an argument which further reinforces the Tribunal's decision on this point.[243]

177. Despite being labelled an Extraction Tax, it is common ground between the Parties that the Extraction Tax increased the royalty rate on crude oil to 33.33% (which had already been increased by the Royalty Measure from 1% to the 16.66% contemplated in Article 41 of the 1943 Hydrocarbons Law).[244] In fact, the Tribunal notes that, rather than using the term "royalty" *per se*, Article 41 of the 1943 Hydrocarbons Law has all along referred to an "exploitation tax". Further, as recognized by Mr. Heinrich at the Hearing, the Extraction Tax was calculated in the same way as the royalty and could be even understood as a "Royalty Tax Number 2".[245] Moreover, the Parties' counsel have both referred to the Royalty Measure and the Extraction Tax, jointly, as "royalty Measures".[246]

178. With this in mind, it is important to recall that Article 14.1(b)(4) of the Hamaca AA states that "increases in the royalty rate applicable to the crude oil produced by the Parties" will not be considered discriminatory "unless such changes result in a royalty rate […] in excess of the maximum rate specified by law for the hydrocarbon industry in general".[247] It is also noteworthy that the material royalty increase to 33.33%

---

[242] R-PHB, § 505.

[243] *Supra*, § 156.

[244] SoC, § 118 ("On 16 May 2006, the National Assembly duly approved and implemented the Extraction Tax, which effectively raised the royalty rate to [33.33%]. For the Petrozuata and Hamaca Projects, the net result of that, within an 18 month period, the applicable *royalty rate* had jumped from one percent to [33.33%]"(emphasis added)); 8 October 2004 Letter from Minister Ramírez to President Rodríguez of PDVSA, **R-12 /C-106**, pp. 2-3, 12; 14 January 2005 Letter from Mr. Berry to Minister Ramírez, **R-14**, p.1; ICSID Hearing Transcript, **C-381**, pp 643:4-646:20 (Mr Goff); SoD, §§ 155-167.

[245] Tr. (Day 2), 509:1-8 (Mr. Heinrich). Essentially the same opinion was shared by the Claimants' quantum expert, Mr. Abdala (Abdala ER I, **CER-3**, § 33).

[246] Tr. (Day 12), 2977:16, 3105:11 (Parties' Closing Statements).

[247] Hamaca AA, **C-3,** Article 14.1(b)(4).

(resulting from the cumulative application of the Royalty Measure and the Extraction Tax) was assumed by all private hydrocarbon operators, PDVSA, and all other government owned oil companies.[248] Accordingly, the Tribunal cannot accept the proposition that the Overall Expropriation constitutes a discriminatory qualified measure under the Hamaca AA, when two of its constituent elements (i.e. the Royalty Measure and the Extraction Tax) cannot be qualified as discriminatory in the first place.

179. In general, the Claimants have been unable to overcome the hurdle that their Overall Expropriation DA claim comprises a Royalty Measure and an Extraction Tax which: (i) the Claimants themselves admit do not constitute DAs on a stand alone-basis;[249] and (ii) the effects of which, if assessed against the default comparator in the Hamaca AA for discrimination purposes,[250] rather than against the standard set out in Article 14.1(b)(4) excluding royalty increases from being deemed discriminatory,[251] would be "generally applicable to entities (both public and private) […] in the hydrocarbon industry".[252]

180. Therefore, the Tribunal finds it incoherent to argue that, because of the Expropriation, the comparator for assessing the discriminatory nature of either the Royalty Measure and/or the Extraction Tax should vary. The DA provisions of the Hamaca AA do not withstand such an interpretation.

181. For the reasons set out above, the Tribunal determines that the Overall Expropriation does not constitute an "expropriation" pursuant to Article 14.1(b)(1) of the Hamaca AA. As such, the Overall Expropriation is not discriminatory under the Hamaca AA. By the same token, the Royalty Measure and/or the Extraction Tax are not discriminatory under the Hamaca AA either.

182. In light of all of the above analysis of each AA, the Tribunal concludes that only the Expropriation constitutes a discriminatory measure under both the Petrozuata and Hamaca AAs. Conversely, the remaining constitutive elements of the Overall Expropriation, namely, the Royalty Measure and the Extraction Tax, cannot be deemed discriminatory under either the Petrozuata or the Hamaca AAs. Therefore,

---

[248] *Supra*, § 147.i.

[249] Tr. (Day 12), 2977:9-18 (Claimants' Closing Statements).

[250] *Supra*, § 162.iii.

[251] *Supra*, §§ 176-178.

[252] Hamaca AA, **C-3**, Article 14.1(b).

given that the discriminatory nature of a qualified measure is essential in order for it to be characterized as a DA, the Royalty Measure, the Extraction Tax and the Overall Expropriation do not constitute DAs under either AA.

b. *First prong for a qualified measure to be deemed a DA: the alleged discriminatory nature of the Income Tax Increase*

183. The Claimants submit that, in order to determine whether the Income Tax Increase was discriminatory under the Petrozuata AA, the standard or comparator to be applied is whether this qualified measure was "generally applicable to most enterprises in Venezuela".[253] With respect to the Hamaca AA, the Claimants submit that the adequate comparator must be whether the Income Tax Increase was "generally applicable to corporations and other legal entities that are taxable in the same manner as corporations in Venezuela".[254] In essence, the Claimants argue that "both AAs provide that a tax measure is discriminatory if it is not generally applicable to all corporations in Venezuela".[255]

184. On this basis, the Claimants stress that, due to the Income Tax Increase, the income tax payable by corporations pertaining to the hydrocarbon industry or related ventures (including the EHCO projects) was raised from 34% to 50%. In contrast, all other corporations in Venezuela continued to pay income tax at the rate of 34%.[256] Therefore, the Income Tax Increase must be deemed discriminatory.

185. It has been the Respondents' position throughout the proceedings that the alleged discriminatory nature of the Income Tax Increase hinges on what institutes a "generally applicable" tax.[257] In the Respondents' own terms, the issue to be considered by the Tribunal runs as follows:

> If the [Income Tax Increase was] generally applicable because [it] applied to any taxpayer engaging in the oil business, then [it] cannot be [discriminatory]. If "generally applicable" means that the 50% rate had to apply to all enterprises, regardless of whether they were engaged in the oil business, then the [Income Tax Increase] would fall within the definition [of discriminatory].[258]

---

[253] C-PHB, § 80(a); Petrozuata AA, **C-1**, Section 1.01(a)(1).

[254] C-PHB, § 80(b); Hamaca AA, **C-3**, Article 14.1(b)(1).

[255] C-PHB, § 80(c).

[256] C-PHB, § 75.

[257] SoD, § 289; Rejoinder, § 324.

[258] R-PHB, § 521.

186. In this regard, the Respondents argue that the first of the previous two possible interpretations is to be preferred.[259] Bearing in mind that the Income Tax Increase was indeed applicable to all enterprises engaged in the oil business, in the Respondents' view it follows that it was not discriminatory and thus cannot be characterized as a DA.

187. The Tribunal finds the Respondents' conclusion unsubstantiated. Overall, the DA provisions of both AAs are complicated and heavily conditioned upon multiple layers of carve-outs, exceptions, and counter-exceptions. That being said, in the context of income tax, the specific passages of the DA provisions invoked by the Claimants (the relevance of which has not been contested by the Respondents) are clear. Thus, the interpretation offered by the Respondents simply does not play out against the text of either AA.

188. In the Petrozuata AA, the default comparator to assess discrimination is established in the *chapeau* of the definition of DAs. It refers to qualified measures whose "treatment" is "not applicable to all **enterprises in Venezuela**".[260] Then, the same provision lays out a first carve-out to the foregoing default comparator. In particular, it stipulates that "treatment shall not be considered discriminatory if it equally applies to the enterprises (empresas) within **the oil industry in Venezuela**".[261] Subsequently, a first exception to the preceding carve-out is provided. In unmistakably clear terms, the said exception clarifies that, "with respect to the application of **income taxes** and any valuations as a basis for income taxes (e.g. the Fiscal Export Value), treatment shall be considered **discriminatory** if it is **not generally applicable to most enterprises in Venezuela**".[262] Put simply, by way of the income-tax-exception to the carve-out, the default comparator established in the *chapeau* is, in essence, again rendered applicable.[263]

---

[259] R-PHB, § 521.

[260] Petrozuata AA, **C-1**, Section 1.01.

[261] Petrozuata AA, **C-1**, Section 1.01(a).

[262] Petrozuata AA, **C-1**, Section 1.01(a)(1) (emphasis added).

[263] As seen *supra* at § III.B..4.a.i, Section 1.01(a)(3) of the Petrozuata AA states that, under certain circumstances, qualified measures may nonetheless be discriminatory despite being equally applicable to enterprises within the Venezuelan oil industry. This is so if, "analyz[ed] globally", it can be ascertained that the measures result in an "economic damage" that: (i) was not "actually suffered" by government owned companies in the oil sector; or (ii) was "disproportionally onerous" to the private party "as compared" to government owned companies in the oil sector (*supra*, §§ 141-142). As such, Section 1.01(a)(3) of the Petrozuata AA provides for two different comparators that serve as a second exception to the carve-out in Section 1.01(a), according to which "treatment shall not be considered discriminatory if it equally applies to the enterprises (empresas) within the oil industry in Venezuela" (*supra*, fn. 261). That being said, the Tribunal notes that the Parties have not advanced their arguments with respect to the Income Tax Increase on the basis of Section 1.01(a)(3) of the Petrozuata AA,

189. The Hamaca AA follows a similar structure. The relevant provision therein fixes as a default comparator for discrimination purposes those qualified measures "not generally applicable to entities (both public and private) […] **in the hydrocarbon industry in Venezuela**".[264] Subsequently, the same provision caters for multiple exceptions, the first of which, as the Claimants point out, refers to "tax rates". More specifically, the exception determines that qualified measures "in respect of tax rates" will not be considered discriminatory if "generally applicable **to** corporations and other legal entities that are taxable in the same manner as **corporations in Venezuela**".[265] For the Tribunal, it is evident that the reference to "tax rates" in the Hamaca AA covers, *inter alia*, income tax variations such as the Income Tax Increase.[266]

190. Two related aspects follow. First, the AAs share common ground: the possible discriminatory effects of changes to the income tax are addressed by way of an exception. The Tribunal deems this to be dispositive of the issue in favor of the Claimants. Had the Parties intended to agree on the interpretation offered by the Respondents, it is hard to conceive the reasons behind the introduction of such express exceptions. In the Claimants' words, the Respondents' argument regarding the non-discriminatory nature of the Income Tax Increase "makes no sense, because if [it] were true, [there] would not be an [income tax] exception" in each AA to begin with.[267] The Tribunal agrees.

191. Second, in order to accept the Respondents' interpretation, the Tribunal would essentially be required to give effect to distinct contractual provisions. Indeed, understanding the term "generally applicable" as meaning "[applicable] to any taxpayer engaging in the oil business",[268] suggests that the content of "generally applicable" would be undistinguishable from: (i) "[applicable] to the enterprises (empresas) within the oil industry in Venezuela", as in Section 1.01(a) of the Petrozuata AA (i.e. the first carve-out to the default comparator);[269] and (ii) "applicable

and rightly so: Section 1.01(a)(1) of the Petrozuata AA establishes a specific comparator in order to assess whether a taxation measure such as the Income Tax Increase is discriminatory or not (*supra*, fn. 262). Therefore, it is unnecessary for the Tribunal to assess the alleged discriminatory nature of the Income Tax Increase against Section 1.01(a)(3).

[264] Hamaca AA, **C-3**, Article 14.1(b).

[265] Hamaca AA, **C-3**, Article 14.1(b)(1).

[266] Although not alluded to by the Claimants, the Tribunal cannot help but note that a second exception to the general comparator in Article 14.1(b) expressly refers to income taxes. Indeed, Article 14.1(b)(3) fixes the same comparator as Article 14.1(b)(1) with respect to income tax regimes (Hamaca AA, **C-3**, Article 14.1(b)(3)).

[267] C-PHB, § 81.

[268] *Supra*, § 185.

[269] *Supra,* fn. 261.

to entities (both public and private) […] in the hydrocarbon industry in Venezuela", as in Article 14.1(b) of the Hamaca AA (i.e. the exception to the default comparator).[270]

192. Such a construction, however, does not withstand scrutiny. Being an essential part of the income-tax-exception found in both AAs, it cannot be that the term "generally applicable" is construed in the same fashion as the comparator from which the said exception seeks to depart from. Put differently, it would be absurd and nonsensical to accept that a rule and its exception have the same effect.

193. For the reasons set out above, the Tribunal determines that the Income Tax Increase is discriminatory both under the Petrozuata and the Hamaca AAs.

c. *Second prong for a qualified measure to be deemed a DA: the alleged unjust character of the Income Tax Increase and/or of the Expropriation*

194. The Petrozuata AA states that, for the purpose of the definition of DAs, treatment accorded by a qualified measure shall be considered "unjust" if it results in SED.[271] In tandem, the Hamaca AA states that a qualified measure shall be deemed "unjust" if it results in MAE.[272]

195. The Tribunal has found that neither the Royalty Measure nor the Extraction Tax (and therefore, the Overall Expropriation as advanced by the Claimants to the extent that it represents the amalgation of these measures) can be deemed discriminatory under either the Petrozuata or the Hamaca AAs. Because DAs under each AA must be both "discriminatory" and "unjust", the Royalty Measure and the Extraction Tax cannot be characterized as DAs. Hence, the Tribunal finds it unnecessary to assess whether they are "unjust" as defined in each AA. Accordingly, the Tribunal will only ascertain whether the Income Tax Increase and the Expropriation are "unjust" for causing SED and/or MAE. In doing so, the Tribunal bears in mind that the Respondents admit that the Expropriation constitutes a DA.[273]

[270] *Supra,* fn. 264.

[271] *Supra*, § 132.

[272] *Supra*, § 162.ii.

[273] Rejoinder, § 21; Tr. (Day 1), 209:5-10 (Respondents' Opening Statement); August 2016 ICSID Hearing Transcript, **R-186**, Day 2, 457: 20-21.

196. The Tribunal first recalls that the harm resulting from measures that qualify as discriminatory can be cumulatively assessed in order to determine whether SED or MAE has been caused. This is not controversial between the Parties.[274]

197. In accordance with Section 1.01 of the Petrozuata AA, SED is caused when, as a result of discriminatory measures, the Claimants suffer in any given fiscal year a minimum damage of USD 6.5 million.[275] In turn, pursuant to Article 14.2(a) of the Hamaca AA, MAE exists when discriminatory measures cause a reduction of at least 5% in the Claimants' net cash flow in any given year.[276]

198. In light of the foregoing, the Respondents' own quantum scenarios suggest that, should the Claimants prevail on the merits of their DA claim, the potential damage suffered by the Claimants has exceeded the thresholds necessary to establish SED or MAE.

199. Indeed, according to one of the valuation scenarios put forward by the Respondents,[277] the Claimants would be due USD 47.8 million under the Petrozuata AA and USD 59.5 million under the Hamaca AA for their DA claims.[278] It is worth noting that the foregoing scenario assumes that the Expropriation is the only discriminatory qualified measure at issue. It thus shows that the effects of the Expropriation alone were deemed sufficient to surpass the *de minimis* threshold required to cause both SED and MAE.[279]

200. It follows that factoring-in the effects of the Income Tax Increase can only further raise the margin between the *de minimis* threshold and the actual harm suffered. Indeed, with the same assumptions of the Respondents' second most favorable valuation

[274] Reply, §§ 176-177; Rejoinder, §§ 303, 316-321; *supra*, §§ 126, 145, 162.ii, 162.v.

[275] *Supra*, § 101.

[276] *Supra*, § 107.

[277] The Respondents essentially advance two valuation scenarios. The first one assumes the dismissal of the Claimants' DA claims in their entirety due to the latter's alleged non-compliance with the requirements of notice and exhaustion of local remedies of each AA. The second one (referenced herein) regards the Expropriation to be the only DA in place (i.e. it does not account for the Income Tax Increase) and rejects all of the Claimants' additional quantum assumptions (R-PHB, §§ 895-897). Yet it accepts to different degrees the Claimants' position on the notification and exhaustion of local remedies. The Respondents' position on the alleged notification and exhaustion of local remedies will be examined further below (*infra,* §§ 202 ss, 259 ss). These arguments, however, pertain solely to the issue of whether there is a duty to compensate for the SED/MAE suffered by the Claimants. It is not germane to the question of whether SED/MAE has been caused as a result of discriminatory qualified actions. Therefore, the Respondents' position regarding notice and exhaustion of local remedies is not relevant for assesing whether DAs exist or not.

[278] R-PHB, § 895.

[279] In any event, the amount awarded to the Claimants in consideration of the position of both Parties clearly demonstrates that the threshold required by both AA for the existence of SED or MAE has been satisfafied (*infra*, §§ 543, 1127, 1163).

scenario (yet accounting for the Income Tax Increase as an additional discriminatory measure),[280] in principle the Claimants would be owed USD 68.6 million under the Petrozuata AA and USD 76 million under the Hamaca AA.[281]

201. For these reasons, the Expropriation and the Income Tax Increase both constitute discriminatory qualified measures that give rise to SED and MAE. Put simply, both the Expropriation and the Income Tax Increase are DAs under the Petrozuata and the Hamaca AAs.

d. *The alleged notification requirements*

202. The Respondents argue that the AAs contain notice requirements applicable to all claims for compensation based on the occurrence of a DA. In this regard, the Respondents point to Section 9.07(e) of the Petrozuata AA, which states:

> The right to compensation of [CPZ] under this Section 9.07 shall be limited to those damages actually suffered by such Shareholder beginning with the fiscal year previous to the year in which a written notice is sent to [PDVSA Petróleo], indicating that the notifying Shareholder considers that a Discriminatory Action has taken place.[282]

203. By the same token, the Respondents refer to Articles 14.3(a) and 14.3(b) of the Hamaca AA which, in their view, requires the following two separate notices as "preconditions to obtaining" compensation for the harm caused by a DA:

> [F]irst, a "Notice of Discriminatory Action," set forth in Section 14.3(a), to be given "promptly" after the injured party "considers that a Discriminatory Action has occurred"; and second, a "Notice of Triggering Event," set forth in Section 14.3(b), to be sent in the event that the party determines that the Discriminatory Action caused a "Significant Adverse Effect.[283]

204. The Respondents argue that the Claimants have not met any of the requirements contained in these two provisions. The Respondents are "fully aware" that the Claimants indeed objected to the application of the Royalty Measure, the Extraction Tax, the Income Increase and the Expropriation.[284] However, according to the Respondents, both the Petrozuata and Hamaca AAs specifically required notice to PDVSA's subsidiaries once the Claimants considered that a DA had taken place. Yet,

[280] *Supra*, fn. 277.

[281] Brailovksy/Flores ICSID 2016 Valuation Model, **App. BF-406**. These results are obtained by selecting the "B&F –With the Compensation Provisions" button on the "Control Panel" tab, modifying "Compensation/Past" and "Interest" to only include amounts from 2013 through 2016, and toggling the "Income Tax Modification" in the "Control Panel" tab to "No".

[282] Petrozuata AA, **C-1**, Section 9.07(e); R-PHB, § 523.

[283] R-PHB, § 528.

[284] R-PHB, §§ 531-539.

"nowhere in any of the Claimants' 'numerous letters' do the words 'Discriminatory Action' ever appear".[285] Hence, the Claimants' general objections say "nothing about whether the Claimants provided the requisite notices of "Discriminatory Actions". […] The requirements of the Associations Agreements are not satisfied by either awareness of objections to a governmental measure or by documents that are plainly not notices of the occurrence of a 'Discriminatory Action', and combining both does not change that fact".[286]

205. The Respondents describe the consequences of the Claimants' omission as follows:

> In the case of the Petrozuata Association Agreement, the legal consequences are spelled out in the Compensation Provisions themselves – no compensation is payable in respect of any fiscal year prior to the year in which notice of a Discriminatory Petrozuata Action is given. In the case of the Hamaca Association Agreement, the legal consequence of a failure to give the required notices is provided by the applicable law – forfeiture (or *caducidad*) of the right to obtain compensation.[287]

206. The Respondents therefore submit that, since no "notice of Discriminatory Action" was ever provided by the Claimants to any of PDVSA's subsidiaries, the Claimants "are prevented from [receiving compensation for] their untimely [DA] claims".[288]

207. The Claimants submit, on the other hand, that the Respondents' position is "purely formal in nature".[289] According to the Claimants, "nothing in the AAs or in Venezuelan law requires the recitation of talismanic words".[290] Rather, the underlying purpose of the notification requirement in the AAs was to "alert" Respondents to the complained-of actions taken by the Government.[291] In this regard, the Claimants note that the Respondents acknowledge the Claimants' objections to the various qualified measures adopted by Venezuela.[292] Therefore, "there can be no question that the Respondents were fairly put on notice of their obligations under AAs, including their indemnity obligations under the DA provisions".[293] Put simply, the Respondents and the Venezuelan Government were "fully aware" of the qualified measures questioned

[285] R-PHB, § 530.

[286] R-PHB, § 541.

[287] R-PHB, § 522.

[288] R-PHB, § 549.

[289] C-PHB, § 121.

[290] C-PHB, § 122.

[291] C-PHB, § 143.

[292] C-PHB, § 121.

[293] C-PHB, § 122.

by the Claimants and their effect on the AAs.[294] Consequently, it must be understood that the Claimants properly discharged any notice requirement in the AAs.[295]

208. In any event, the Claimants argue that any additional or more specific notifications by the Claimants would have been futile – futility being a principle recognized by Venezuelan law.[296] This is so because the notification requirements in the AAs were not only intended to inform the Respondents of the existence of a contested qualified measure, but they also sought to "ensure" that the Respondents had the "opportunity to act to remedy them".[297] However, the Claimants had no reason to believe that the Respondents could or would act independently to assist in opposing the qualified measures objected by the Claimants. In this context, "issuing further notices under the AAs using different formulations would have served no purpose".[298] This is particularly the case given that PDVSA was aware of its obligation under the AAs "to pay compensation" to the Claimants pursuant to the "contractual indemnities" contained therein.[299]

209. The issue therefore boils down to three issues. First, whether the AAs required the Claimants to provide notice to the Respondents should the former consider that a DA had taken place. Second, whether such a requirement (if extant) was complied with by the Claimants. Third, in case of non-compliance, whether the Claimants are now precluded from seeking compensation for any SED or MAE caused by a qualified measure deemed a DA.

i. <u>Did the AAs require the Claimants to provide notice to the Respondents?</u>

210. Before venturing into the foregoing analysis, the Tribunal recalls that only the Income Tax Increase and the Expropriation have been deemed DAs. Consequently, the Tribunal will only assess whether the Claimants discharged any alleged notice requirement *vis-à-vis* these two measures. Conversely, the Royalty Increase and/or the Extraction Tax will not be part of the Tribunal's analysis.

211. With this in mind, the Tribunal considers that the first issue, namely, whether the AAs required the Claimants to notify the Respondents should they consider that a DA had

[294] C-PHB, §§ 141, 149, 151-153.

[295] C-PHB, § 141.

[296] C-PHB, § 148.

[297] C-PHB, §§ 143, 145.

[298] C-PHB, § 145.

[299] C-PHB, §§ 152-153, referring to Tr. (Day 6), 1560:17-1561:22 (Dr. Mommer).

taken place, must be resolved in the affirmative. The AAs are clear. In accordance with Section 9.07(e) of the Petrozuata AA, the Claimants were expected to "indicat[e]" that a "Discriminatory Action [had] taken place".[300] In turn, further to Article 14.3(a) of the Hamaca AA, Claimants were to give a "Notice of Discriminatory Action" "indicat[ing]" whether they "believ[ed] that such a Discriminatory Action will result in a Material Adverse Effect".[301] Moreover, pursuant to Article 14.3(b) of the Hamaca AA, the Claimants were "entitled to give a […] Notice of Triggering Event" in case they believed that they "[had already] suffered a Material Adverse Effect […] as a result of actions in respect of which [they] had delivered Notices of Discriminatory Action".[302]

212. Indeed, the existence as such of the notice requirement does not appear to be contentious. Rather, the Claimants submit that they discharged any notice requirement under the AA.[303] Alternatively, they argue that strict compliance with such a requirement would have been futile.[304] However, as far as the text of the AAs is concerned, at no point have the Claimants argued that the AAs did not contain a notice requirement and rightfully so.

ii. Have the Claimants complied with the notice requirement?

213. The second issue, namely, whether the Claimants complied with the AAs' notice requirement, is less straightforward. It is common ground between the Parties that the Claimants issued several communications objecting to the applicability of the Income Tax Increase and the Expropriation.[305] The pivotal question is therefore whether such objections are sufficient to satisfy the notice requirement under the AAs by alerting the Respondents to the Claimants' belief that the qualified measures at issue constituted DAs. The Tribunal will discuss the said objections in turn.

214. With respect to the Income Tax Increase, the Tribunal has found the following facts to be of particular relevance:

i. On 29 November 2006, the Claimants sent a letter to Mr. Mommer and the representatives of all three Respondents. In this correspondence, the Claimants "protest[ed]" about the "recent changes made to the fiscal regime

[300] Petrozuata AA, **C-1,** Section 9.07(e); R-PHB, § 523.

[301] Hamaca AA, **C-3**, Article 14.3(a).

[302] Hamaca AA, **C-3**, Article 14.3(b).

[303] C-PHB, § 141; *supra*, § 207

[304] *Supra*, § 208.

[305] C-PHB, §§ 129-140; R-PHB, §§ 536-540.

applicable to the investments made by [the Claimants] within the territory of [Venezuela]". The letter makes reference to, *inter alia*, the "increased income tax from 34% to 50%", and "reserved all of its rights under Venezuelan and International Law with respect to such changes".[306]

ii. On 31 January 2007, copying Dr. Mommer (in his capacity of Vice Minister of Hydrocarbons), the Claimants sent a letter to Mr. Ramírez (in his capacity of Minister of Energy), President Maduro (in his then capacity of Minister of Foreign Affairs), and Ms. Gladis Gutiérrez (in her capacity of Attorney General). In their letter the Claimants refer to, *inter alia*, the Income Tax Increase, deeming it "without basis and inconsistent with the Association Agreements". The letter goes on to question President Chávez's announcement of his intention to expropriate the Claimants' investments in Venezuela. The letter concludes by considering "Venezuela's actions" as "contrary to the protections afforded to ConocoPhillips under the [Venezuela-Netherlands BIT], as well as the Foreign Investment Law", and therefore "notifies Venezuela in writing of the existence of a dispute in accordance with the provisions of the [latter two instruments]".[307]

215. As far as the Expropriation is concerned, the Tribunal finds it unnecessary to refer to each communication in detail. Suffice it to note that in practically all the objections raised from 26 February 2007 to 30 April 2007, the Claimants referred to the Expropriation and reserved their rights to take legal action pursuant to the AAs, Venezuela's Investment Law, the Venezuela-Netherlands BIT and/or international law.[308]

216. Having reviewed the record, the Tribunal finds truth in the Respondents' observation that none of the communications relied upon by the Claimants explicitly referred to the occurrence of a DA.[309] Indeed, the term Discriminatory Action, or for that matter, the notions of "discriminatory" or "unjust", are conspicuously absent in any such communication. Nonetheless, it would be excessively formalistic for the foregoing to be dispositive of the issue in favor of the Respondents.

[306] Letter from Claimants to Dr. Mommer and others, 29 November 2006, **C-151**.

[307] Letter from Claimants to Minister Ramírez and others, 31 January 2007, **C-162**.

[308] C-PHB, §§ 133-140.

[309] *Supra*, fn. 285.

217. The Respondents refer to Article 1264 VCC in order to argue that, as far as the notice requirement is concerned, the Parties cannot be allowed to depart from the literal tenor of the AAs.[310] The Tribunal is aware that, in accordance with Article 1264 of the VCC, "[o]bligations must be complied with exactly as they have been prescribed".[311] Nevertheless, immediately thereafter Article 1264 of the VCC states that "[t]he debtor is liable for damages, in case of breach".[312] This last *tranche* of Article 1264 VCC leads the Tribunal to believe that its content is applicable to obligations of a substantive nature (as opposed to a mere duty or an "obligation" of a different nature). Indeed, the lack of strict compliance with substantive contractual obligations should usually result in damages to the creditor of the obligation at issue. Evidently, however, Section 9.07(e) of the Petrozuata AA and Articles 14.3(a) and 14.3(b) of the Hamaca AA cannot be characterized as encompassing substantial obligations.

218. First, in and of themselves these provisions do not establish a relationship between creditor and debtor. Second, their non-compliance by the Claimants cannot cause harm to the Respondents for which they could seek compensation. Put differently, non-compliance with the notice provisions in the AAs do not amount to a compensable breach of contract: the Respondents seek a different remedy, namely, the non-applicability of contractual rights—not a breach of the AAs.

219. The notice provisions in the AAs simply cater to a procedural requirement for the Claimants to secure an entitlement granted by contract: indemnity for the issuance of qualified measures constituting DAs. Accordingly, the Tribunal is of the view that the stringent standard put forward by Article 1264 VCC is non-controlling. Rather, the Tribunal considers that the issue of whether the Claimants have met the notice requirements of the AAs must be assessed in light of the purpose of agreeing to such provisions.

220. In this respect, the Claimants submit that the purpose underlying the notice requirements was twofold. First, to "alert Respondents to the complained-of actions by the Government".[313] Second, "ensure that Respondents had the opportunity to act to remedy [the said complained-of actions]".[314] These explanations are unpersuasive.

[310] R-PHB, fn. 1060.

[311] VCC, **RLA-148**, Article 1264 ("Obligations must be complied with exactly as they have been subscribed. The debtor is liable for damages, in case of breach"); R-PHB, fn. 1060.

[312] VCC, **RLA-148**, Article 1264.

[313] C-PHB, § 143.

[314] C-PHB, § 143.

221. Both Mr. van Wageningen and Mr. Manning, the Claimants' witnesses, have offered testimony to the effect that the notice requirements were incorporated into the AAs in order to "cure" the Respondents' "ignorance, if any", *vis-à-vis* the existence of qualified measures contested by the Claimants.[315] However, as defined in Section 1.01 of the Petrozuata AA and Article 14.1(b) of the Hamaca AA, measures *prima facie* falling under the purview of the relevant DA provision of both AAs included: "actions", "decisions", or "changes in law", adopted by "any Venezuelan national, state or municipal legislative or administrative authority (including any such action or decision resulting in a change in interpretation or application of Venezuelan law)".[316] By definition, these measures are public.

222. Presumably then, sophisticated as they are, the Parties would (or should) be aware of the passage of a law, of landmark changes in the interpretation or application of the law, or of the taking of other governmental or administrative actions akin to the Projects. Mr. van Wageningen himself recognized this point at the Hearing.[317] It is therefore unlikely that the notice requirements sought to inform the Respondents of the existence of already evident and public qualified measures—all of which, arguably, "would affect [the Parties'] interests in the Project[s]".[318] Overall, the Tribunal doubts the notice requirements were intended to serve what otherwise seems to be a self-fulfilling purpose.

223. The argument that the notice requirements sought to prompt the Respondents into "remedy[ing]" the "complained-of actions by the Government" fares no differently.[319] Having established that the Parties were expected to be aware of the existence of all qualified measures affecting the Projects, it is a *non sequitur* to submit that the notice requirements were adopted for the Respondents to assume a determined course of action with respect to the said measures. In any event, such an alleged purpose would be at odds with the text of the AAs.

224. Section 9.07(e) of the Petrozuata AA is silent as to the events preceding and following a notice by the Claimants that a DA has taken place. Article 14.3(a) of the Hamaca AA does state that, further to a Notice of Discriminatory Action, the Parties

[315] van Wageningen WS II, **CWS-5**, § 21; Tr. (Day 3), 715:15-716:1 (Mr. van Wageningen); Tr. (Day 2), 435:3-10 (Mr. Manning); Manning WS II, **CWS-6**, § 23.

[316] *Supra*, § 111.

[317] Tr. (Day 3), 716:13-717:18 (Mr. van Wageningen).

[318] van Wageningen WS II, **CWS-5**, § 22.

[319] *Supra*, fn. 313-314; van Wageningen WS II, **CWS-5,** §§ 21-22; Tr. (Day 2), 435:11-21 (Mr. Manning); Manning WS II, **CWS-6**, § 24.

were expected to "meet [and] discuss the formal legal remedies […] appropriate to reverse or obtain relief from the […] Discriminatory Action" at issue.[320] Nevertheless, it was the Claimants, "independently", that were required to "commence" and "pursue such remedies".[321] The Respondents' participation in this undertaking was conditioned to Corpoven Sub's express "request".[322] Put simply, it was on the Claimants, not the Respondents, to seek remedy for any harm resulting from a qualified measure deemed a DA. Moreover, as established elsewhere in this Award, the Respondents were under no particular obligation to initiate proceedings against qualified measures affecting the Projects, to oppose them, or to lobby for their non-adoption, removal or modification.[323]

225. The Tribunal is of the view that the issue regarding the purpose of the notice requirements is simpler. It is reasonable to assume that every governmental or legislative measure regarding the oil industry would somehow impact the Parties' interests in each AA. Yet, not every qualified measure germane to the Venezuelan oil sector brought about the Respondents' compliance with their contractual indemnity obligations. Accordingly, the Claimants' general objections to the applicability of the Income Tax Increase and the Expropriation are, to some extent, irrelevant in the present context.

226. When it comes to the scope of the Respondents' obligations, they contractually assumed the commitment to compensate the Claimants for the harm arising out of DAs, as defined in each AA. As already established, DAs are configured by way of the effects caused to the Claimants.[324] It follows that the Claimants were in the better position to assess whether the harm suffered from a qualified measure amounted to discriminatory and unjust treatment (i.e. the two constitute elements of DAs). Accordingly, the information provided by the Claimants to the Respondents was in principle necessary for the Respondents to be mindful, not of the existence of a determined qualified measure, but of how the impact of the said measure triggered their contractual obligations under the DA provisions of each AA. In this context, the

[320] Hamaca AA, **C-3**, Article 14.3(a).

[321] Hamaca AA, **C-3**, Article 14.3(a).

[322] Hamaca AA, **C-3**, Article 14.3(a).

[323] *Infra*, §§ 382-388.

[324] *Supra*, §§ 132, 144, 162, 194-201.

Claimants' duty (by way of a specific notice) to "indicate" their "believe" that a DA had taken place,[325] gains significance.

227. The obvious flip-side is the following: were it to be established that the Respondents were cognizant that a particular qualified measure triggered their indemnity obligations, then any information that the Claimants may have provided (by way of notice or otherwise) would have been unnecessary.

228. The Tribunal's view does not build-up on the notion of futility. As discussed below, the Claimants' arguments on futility are immaterial.[326] Rather, the Tribunal is of the opinion that, upon the Respondents' awareness to discharge their indemnity obligations, the purpose of the notice requirements must be deemed fulfilled.

229. Indeed, it may be the case that the Respondents' awareness of a DA would have been primarily prompted by a notice served by the Claimants. However, that should not be taken as precluding the possibility that the necessary information to that effect could have also been attained by other means. In fact, the content of a particular qualified measure in question could be sufficient: for instance, the treatment accorded by a measure could be so blatantly discriminatory and unjust (as defined in each AA), that its characterization as a DA would be a foregone conclusion.

230. This appears to be the case of the Expropriation. By and large, the Expropriation is the quintessential DA under either AA. It was only applicable to private corporations in the oil industry. Further, given the magnitude and expected duration of the Projects, it is evident that its application caused SED/MAE to the Claimants. It is thus unsurprising that the Respondents were fully aware, not only of the Expropriation's existence as a qualified measure, but of their indemnity obligations with regards to it pursuant to the DA provisions. As explained by Mr. Mommer during the Hearing:

> Q. Now, you've testified in the ICSID proceedings that your role in administering the migration process involved participating in meetings with the Claimants relation to compensation for the forced nationalization; yes?
>
> A. For forced migration, yes. I participated in quite a few meetings, but not in all of them; but in important meetings I participated at that time.
>
> Q. And you may recall, Dr. Mommer, that, when you testified here in August, you testified that Mr. Del Pino of PdVSA also participated actively in those meetings; yes?

---

[325] *Supra*, § 211.

[326] *Infra*, §§ 238-241.

A. Of course. It was to them to take over the operations so they had to be there, and it was--yes. Yes. That was it, yes.

Q. And you remember describing yourself and Mr. Del Pino working as a team in these discussions?

A. We worked as a team, indeed. He had his role to play, and I had my role to play.

Q. And you described him having a particular role in the **compensation calculations** that were being developed **in relation to the nationalization**; yes?

A. Given the **Association Agreements**, PdV was heavily involved in the compensation discussion. They were **obliged** by the Agreements to **pay compensation in the first place**, so logically they were not out of this discussion. They were part of it.

Q. They were aware that they had this obligation, and, therefore, they participated in the discussions?

A. They were **aware** that there were **contractual indemnities programmed up to a certain Threshold Price and so on**.[327]

231. In light of the above, the Tribunal has no hesitation to hold that: (i) the purpose of the notice requirements with respect to the Expropriation was fulfilled; and/or (ii) the Claimants' objection to the Expropriation, and the reservations of their right to take legal action pursuant to, *inter alia*, the AAs, could hardly acquire another meaning, exclusively or not, than a reference to the DA provisions.[328] Accordingly, the Tribunal determines that, as far as the Expropriation is concerned, the notice requirements of the AAs were discharged since the very outset (i.e. the year 2007).

232. A finding to the contrary would require the Claimants to unreasonably comply with a formality devoid of all effect. It would counterintuitively call for the Claimants to notify the Respondents of something that, as the evidence shows, they already knew. Pretending otherwise is spurious.

233. Notwithstanding the foregoing, the same conclusion cannot be extended to the Income Tax Increase. First, there is no evidence on the record clearly accounting for the Respondents' awareness of the discriminatory and unjust treatment resulting from the Income Tax Increase. Similarly, there is no document clearly evidencing the Claimants' own awareness or belief that the Income Tax Increase constituted a DA.

[327] Tr. (Day 6), 1560:17-1561:22 (Dr. Mommer) (emphasis added).

[328] *Supra*, § 215.

This is so despite the Claimants' general awareness since the very outset that expropriatory or similar public measures endangering their interest were plausible.[329]

234. Second and more specifically, the Claimants' letter of 29 November 2006 (a document analyzed by both Parties) made no reference to the AAs.[330] This letter only contends that the Income Tax Increase (and the Extraction Tax) negatively affected their "investments" and "legitimate expectations". Subsequently, the letter reserves all rights under "Venezuelan and International law". These statements are overly broad and can imply a variety of courses of action, the main one being, as it came to pass, recourse to investment treaty arbitration.

235. Third, while the Claimants rightly point out that their letter of 31 January 2007 did consider the Income Tax Increase to be "without basis and inconsistent with the [AAs]",[331] such statement was not made in a vacuum. The letter was copied to Mr. Mommer, and addressed to Mr. Ramírez, President Maduro (in his then capacity of Minister of Foreign Affairs), and Ms. Gutiérrez, all acting in their capacity as public officials to the Venezuelan Government. Further, also referring to the Expropriation, the letter expressly puts Venezuela on notice of the existence of a dispute in accordance with the provisions of the Foreign Investment Law and the Venezuela-Netherlands BIT.[332]

236. In this respect, the Tribunal finds it telling that, in their submissions, the Claimants omitted giving context to their own evidence and, in particular, to their letter of 31 January 2007. It is clear that the aim of this communication was the notification of an investment treaty dispute between the Claimants and Venezuela. It certainly does not appear that it intended to notify, indicate, or otherwise inform the Respondents that the Income Tax Increase was, in the Claimants' view, a DA. The supervening events, namely, the filing of the ICSID request for arbitration without resort to the contractual remedies, are also indices of what the Claimants intended with that communication, and how the Respondents were to understand it. In light of this context, the fact that in their communication the Claimants also mentioned, in passing, inconsistency between the Income Tax Increase and the AAs is therefore of limited relevance for

[329] Confidential Offering Circular, 17 June 1997, **C-61**, p. 38 ("[…] the Project is subject to political, economic and other uncertainties, including the risks of war, expropriation, nationalization, renegotiation or nullification of existing contracts […] There can be no assurance that future developments in Venezuela will not have a material adverse effect on the Project's operations and the Company's revenues")

[330] *Supra*, § 214.i; C-PHB, § 130; R-PHB, § 536, fn. 532, 535.

[331] *Supra*, § 214.ii; C-PHB, § 132.

[332] Letter from Claimants to Minister Ramírez and others, 31 January 2007, **C-162**, paras. 2, 15.

determining the issues presently at stake. Indeed, as evidenced by the so-called two categories of claims advanced by the Claimants in this arbitration, on the Claimants' own case there are various types of conduct that would allegedly be "inconsistent" with the AAs.There is thus no basis for the Tribunal to construe the statement in the Claimants' letter of 31 January 2007 as constituting a notification of the Claimants' belief that a DA claim has arisen.

237. Besides the letters of 29 November 2006 and 31 January 2007, the Claimants have not pointed to any other attempt to inform the Respondents of the discriminatory and unjust character of the Income Tax Increase. Hence, the Tribunal has come to the conclusion that it was only with the commencement of this arbitration that the Respondents gained (in accordance with the purpose of the contractual provisions) cognizance of the potential characterization of the Income Tax Increase as a DA. In sum, the notice requirement in the AAs in relation to the Income Tax Increase was fulfilled in 2014.

238. The Claimants' arguments on futility are of no avail to their position on this matter. The Claimants' main contention is that the "new PDVSA" showed no reason "to expect that the Respondents could or would [remedy the situation or] act independently to assist in opposing [either the Expropriation or the Income Tax Increase]".[333] However, as established: (i) the Respondents were under no particular obligation to take any steps to that effect;[334] and (ii) the purpose behind the notice requirements appears to be informing the Respondents of the possible characterization of a qualified measure as a DA,[335] not curing their ignorance as to the existence of a qualified measure, or having the Respondents remedy the complained-of actions by the Government.[336]

239. Moreover, futility is frequently argued in the commercial context to avoid compliance with certain procedural requirements intended to amicably settle a dispute before resolving it through arbitration (i.e. multi-tiered proceedings beginning with negotiation, mediation, and/or conciliation). If successful, this allows for the dispute to be resolved or settled at the outset. Save perhaps for a requirement to exhaust local remedies (discussed below),[337] it follows that procedural requirements sometimes

---

[333] C-PHB, § 145.

[334] *Supra*, fn. 323.

[335] *Supra*, §§ 225-226.

[336] *Supra*, §§ 221-224.

[337] *Infra*, § 259 ss.

serve as a platform for disposing of the issue by way of the parties' agreement. Hence, if evident that no such agreement could be attained, then bypassing procedural requirements precisely aimed at securing said agreement is sensible. In the present case, however, whether or not a DA is adopted and continues to generate effects has never been contingent on the Parties' actions or agreement. This is so because, strictly speaking, neither Party can issue or adopt a qualified measure as defined in the Petrozuata and Hamaca AAs.[338]

240. Once the Claimants had informed the Respondents that a DA may have taken place, the Parties could have certainly disagreed on whether the qualified measure in question should be deemed a DA.[339] Nevertheless, unless one assumes that the Respondents already knew of the discriminatory and unjust nature of a measure, an appropriate notice is the only means of informing the Respondents of the same (be it through a separate letter or a RfA). Therefore there is nothing "futile" about issuing the required notice in the first place.

241. In any event, the Claimants have failed to establish that "Venezuelan law recognizes the principle of futility [excusing them] from otherwise applicable contract provisions".[340] The only authority invoked by the Claimants to ground their contention is the ICC Mobil Award.[341] This can hardly be considered sufficient to assert that a principle of law is extant in a determined domestic jurisdiction.

iii. *What are the consequences of the Claimants' non-compliance with the notice requirement?*

242. The Tribunal turns next to the discussion of the legal consequences, if any, of the Claimants' belated compliance with the notice requirement *vis-à-vis* the Income Tax Increase. The Respondents' position on this point varies considerably depending on whether the issue falls under the Petrozuata AA or the Hamaca AA. For the sake of consistency, the Tribunal will once more undertake its analysis under each AA separately.

- *Under the Petrozuata AA*

---

[338] *Infra*, §§ 475-487.

[339] Petrozuata AA, **C-1**, Section 9.07(f); Hamaca AA, **C-3**, Articles 14.3(c), 14.4(a). Articles 14.3(c) and 14.4(a) of the Hamaca AA are discussed in the Counterclaims section below (*infra,* §§ 523-524, 532-534, fns. 775, 784).

[340] Reply, § 210; C-PHB, § 148.

[341] SoC, fn. 521; Mobil ICC Award, ICC Case No.15416/JRF/CA, Final Award dated 23 December 2011, **CLA-16**, § 404.

243. Section 9.07(e) of the Petrozuata AA clearly states that the Claimants' "right to compensation" in a DA claim "shall be limited to those damages actually suffered […] beginning with the fiscal year previous to the year in which [the notice requirement is satisfied]".[342]

244. The Claimants argue that Section 9.07(e) does not "purport to impose a notification pre-condition for pursuit of a DA indemnification claim".[343] However, the issue is not whether the Claimants are outright barred from raising a DA claim: they are not. Section 9.07(e) does not cater to standing or to the possibility of seeking compensation for the harm suffered as a result of a discriminatory and unjust qualified measure. That being said, it does limit and/or condition the right to the compensation sought. In the Respondents' words, Section 9.07(e) "excludes compensation for all cash flows lost [as a result of a DA] prior to the year […] in which [the AA's notice requirements are deemed satisfied]".[344] The Parties' experts agree on this point.[345]

245. In light of the above, the Tribunal determines that, in accordance with Section 9.07(e), the Claimants are only entitled to receive compensation under the Petrozuata AA for the harm caused by: (i) the Expropriation, as from 2007;[346] and (ii) the Income Tax Increase, as from 2013 (i.e. the fiscal year before the initiation of this arbitration).

- *Under the Hamaca AA*

246. The Hamaca AA lacks a provision akin to Section 9.07(e) of the Petrozuata AA. Yet, the Hamaca AA does state that, "[i]n the event that a Foreign Party considers that a Discriminatory Action has occurred, it **promptly** shall give notice thereof (a "Notice of Discriminatory Action").[347] The Respondents primarily rely on the term "promptly" in Article 14.3 of the Hamaca AA to argue that, in accordance with Venezuelan law, the legal consequence for failing to meet the notice requirement is *caducidad* (forfeiture) of the entire DA claim.[348]

---

[342] Petrozuata AA, **C-1**, Section 9.07(e).

[343] C-PHB, § 119.

[344] R-PHB, § 526.

[345] Tr. (Day 7), 1918:15-1920:1 (Prof. Mata Borjas); Tr. (Day 8), 2211:8-2113:19 (Prof. García Montoya).

[346] *Supra,* §§ 225-231.

[347] Hamaca AA, **C-3**, Article 14.3(a) (emphasis added).

[348] R-PHB, §§ 528-529; García Montoya ER II, **RER-5,** § 64.

247. In turn, the Claimants argue that *caducidad* entails "the entire loss of a right when that right has not been claimed within a predetermined period of time established by law or by the parties in their contract."[349] Thus, the purported failure to comply with the notice requirements does not result in a forfeiture of their right to assert the DA Claim. *Caducidad* is to be "interpreted restrictively and cannot be applied unless the parties clearly intended this result".[350] In particular, "parties must clearly define the specific right that is to be forfeited, the specific conduct whose absence would result in the forfeiture, and the relevant time period beginning with a specified start time" before *caducidad* can occur.[351] According to the Claimants, none of these criteria are satisfied in the instant case. The Tribunal agrees.

248. The Respondents' legal expert, Prof. García Montoya, states that "Venezuelan doctrine confirms that it is not necessary to refer specifically to *caducidad* in a contract in order for that result to arise".[352] However, that is not the issue at hand. The Claimants' contention is not that *caducidad* must explicitly appear in the text of a contract for it to take place. Rather, it is that (in the absence of an express reference to *caducidad*) a contract must leave no room for interpretation that the parties intended for the non-compliance with a requirement to result in the forfeiture of a right.[353] It is in this context that the Claimants submit that a clear indication of the right to be forfeited, the conduct necessary to avoid forfeiture, and the timeframe to undertake the necessary conduct, are optimal proxies to assess the parties' intentions regarding *caducidad*.[354] In fact, the doctrinal authorities referred to by Prof. García Montoya himself appear to generally support the Claimants' position. For instance, one recognized authority states:

> *Caducidad* (from the Latin: caducus: that has fallen) means: the forfeiture of an active subjective situation (of a right, in a broad sense) that occurs due to the failure to comply **with a certain conduct imposed** by a norm for the conservation of that situation when one already enjoys it . . . . [and that]

[349] C-PHB, § 104; Mata Borjas ER II, **CER-4**, § 55

[350] C-PHB, § 102.

[351] C-PHB, §104; Mata Borjas ER II, **CER-4**, § 55.

[352] García Montoya ER II, **RER-5**, § 68.

[353] Mata Borjas ER II, **CER-4**, § 56-57.

[354] C-PHB, § 106-107, referring to Section 5.02 of the Petrozuata AA ("If the costs and expenses set forth in the Control Estimate exceed the costs and expenses set forth in the Definitive Cost Estimate by more than 8% or, if mutually acceptable financing is not available, then each Shareholder shall have the option to proceed or terminate its participation in the Project. *Within 40 Business Days after receipt of the Control Estimate*, each Shareholder *shall notify the company in writing,* with a copy to the other Shareholder, of its decision to proceed with the Project or to terminate its participation in the Project, unless the Shareholders agree to do otherwise within this period of time. *Failure to so notify shall be deemed an election not to proceed…"*) (emphasis added by the Claimants)

> **presupposes the non-compliance with a specific conduct provided for during the precise term fixed by a norm.**[355]
>
> […]
>
> As a result, the holder of the right (in the broad sense), **whose specified inactivity** in such lapse produces the loss of the enjoyment or the expectation to take advantage of the established active subjective situation, has an interest . . . . [not a duty] to comply with the act or to exercise the contemplated act **within the established peremptory term**, but merely has the burden (*carga*) to do so, but even though he is free to execute such act or exercise such action; if he does not do so, he will not avoid the *caducidad.*[356]

249. Another one explains:

> *Caducidad* means the irreparable **loss of the right that one had to exercise an action**, or to effectuate any other legal act, **because the time available** within which that action could have been brought or that act performed **expired** . . . . [*C*]*aducidad* . . . may be established not only by law, but also by contract . . . . Thus, there is *caducidad* when the exercise of a right or the performance of an act is dependent on the fact that it be **done within a fixed period**, in such a way that, as very well expressed by Count Mirabelli, "the term is so identified with the right that, **the expiration [of the term] produces the extinction of [the right]**.[357]

250. A third one states:

> 5.4.2 Contractually established forfeiture of the action. All of the general terms of guaranties (*fianzas*) establish in two (2) different articles the *caducidad* of the action:
>
> a) "The creditor must notify the company in writing of the occurrence of any fact which may give rise to a claim covered by this guaranty, within fifteen (15) business days after acquiring knowledge of such occurrence." This provision does not address the *caducidad*, but it is obvious that if the creditor, who is aware of the act that may give rise to a claim, **does not notify the insurer within the set term**, it would forfeit the right to indemnification, given its noncompliance with the foregoing clause.[358]

251. It is therefore clear that, under Venezuelan law, forfeiture of an identified right can indeed be the contractually agreed effect for not performing a determined action within the pre-established timeframe to do so. The same view has been upheld by Venezuelan courts.[359] It is thus evident that Article 14.3 of the Hamaca AA does not

---

[355] García Montoya ER I, **RER-1**, § 127 (edition by Prof. García Montoya); José Mélich-Orsini, STATUTE OF LIMITATIONS AND CADUCIDAD (2002), García Montoya ER I, **RER-1 App. GM-117**, pp. 159-160 (emphasis added).

[356] García Montoya ER I, **RER-1,** § 132 (edition by Prof. García Montoya); José Mélich-Orsini, STATUTE OF LIMITATIONS AND CADUCIDAD (2002), García Montoya ER I, **RER-1 App. GM-117**, pp. 161-162 (emphasis added).

[357] García Montoya ER I, **RER-1,** § 129 (edition by Prof. García Montoya); Arminio Borjas, COMMENTARIES TO THE VENEZUELAN CODE OF CIVIL PROCEDURE, VOL. III (3rd ed., 1964), García Montoya ER I, **RER-1 App. GM-118**, pp. 115-116 (emphasis added).

[358] García Montoya ER II, **RER-5**, § 68; Luis Ávila Merino, COMMERCIAL SURETY (2nd ed., 2005), García Montoya ER II, **RER-5 App. GM-160**, p. 103 (emphasis added).

[359] *Aldo Caruso v. la Junta Directiva del Hipódromo Nacional y la Nación,* Federal and Cassation Court (Special Federal Chamber), Judgment dated March 6, 1951, 2(6) GACETA FORENSE 109 (April 1951), García Montoya

encompass a concession by the Claimants to forfeit their right to seek compensation for the damages caused by a DA.

252. First, unlike Section 9.07(e) of the Petrozuata AA for instance,[360] nowhere does the Hamaca AA refer to the Claimants' right or entitlement to receive compensation for the harm caused by a DA. Article 14.3(a) of the Hamaca AA simply states that the Claimants were to "promptly […] give notice" to the Respondents in the event the Claimants considered that a DA had occurred.[361]

253. Second (even accepting that the right at stake is the one underlying a particular notice requirement, in this case, the right to compensation),[362] the term "promptly" in Article 14.3(a) is insufficient to constitute a peremptory interval further to which the right in question must be deemed forfeited. The Tribunal is aware that, relying on the opinion of Prof. García Montoya, the Respondents argue that, "according to the Supreme Tribunal of Justice, this type of timing requirement could not mean a delay of nearly ten years".[363] Still, the Tribunal notes that the only decision by the Venezuelan Supreme Court invoked by Prof. García Montoya does not fully support his assertion.

254. In the *TICAPSA* case the Supreme Court held as follows:

> In this regard, the Chamber notes that the word 'immediately' in the context used by the rule and according to the Dictionary of the Royal Academy of the Spanish Language, is a synonym of 'without delay,' so the expression 'immediately,' is understood as something that had to be done directly thereafter, without any type of delay.
>
> […]
>
> Therefore, the interpretation by the petitioning company, according to which this provision meant that the registration of the debt could be sought "at any time," is erroneous.
>
> Therefore, given that the credit contract at stake was executed on December 17, 1982, it is evident that the application for registration on February 23, 1983,

ER II, **RER-1 App. GM-119**, p. 141 ("It is *doctrina* that there is *caducidad* when the **exercise of a right** or the performance of an act are dependent on the fact that they are done within a period of time **predetermined** by a legal provision or by the **agreement** of the interested parties; that is, "that the **term** is in this manner so **identified with the right** so that [the term] having passed it produces the extinction of the right," therefore, **it would be sufficient to demonstrate such passing to establish that the holder of the right who did not act waived his right if he did not act when it was mandatory for him to do so**") (emphasis added); García Montoya ER I, **RER-1,** § 130.

[360] Petrozuata, **C-1**, Section 9.07(e) ("**The right to compensation** of the Injured Shareholder under this Section 9.07 shall be limited to […]") (emphasis added).

[361] Hamaca, **C-3**, Article 14.3(a).

[362] *Supra*, § 250.

[363] García Montoya ER II, **RER-5**, § 64; R-PHB, § 547.

i.e., more than two months later, is untimely according to Article 62 of Decree No. 2.442 published in the Official Gazette No. 2.100, Extraordinary, of November 15, 1977 [sic], because it was not carried out "immediately" after the contract was executed.[364]

255. Notwithstanding the foregoing, the Supreme Court's rationale in *TICAPSA* contains a series of caveats that questions its direct applicability to the case at hand:

i. When promulgated (i.e. before the currency exchange control implemented in Venezuela in 1983), article 62 of Decree No. 2.442 of 1977 ("Article 62") allowed domestic corporations to conclude foreign contracts and lines of credit for a period of 180 days (automatically renewable until revoked).

ii. The authorization of Article 62 was subject to the "immediat[e]" registration of the foreign contracts or lines of credit after their conclusion.[365]

iii. The 180-day authorization granted by Article 62 was revoked by Resolution No. 1.610 of 1983 ("Resolution 1610"). In turn, Resolution 1610 provided that the unregistered foreign contracts and lines of credit that had been concluded within last 180 days (under Article 62) had to be registered within the 5 days following to the promulgation of Resolution 1610.[366]

iv. By the time Resolution 1610 was promulgated, the plaintiff's foreign contract had not been certified as registered. Accordingly, the onus was on the plaintiff to make sure that its foreign contract was properly registered before the expiration of the 5-day peremptory term accorded by Resolution 1610. Nonetheless, the plaintiff failed to act accordingly.[367]

---

[364] *Tierras Carreteras y Puentes, S.A. (TICAPSA) v. el Ministro de Hacienda*, Supreme Tribunal of Justice (Political-Administrative Chamber), Case No. 4.523, 13 December 2006, García Montoya ER II, **RER-5 App. GM-159**, p. 11 (hereinafter "TICAPSA").

[365] Decree No. 2.442, Regulation of the Common Regime for Treatment of Foreign Capital and Trademarks, Patents, Licenses and Royalties Approved by Decisions Nos. 24, 37, 37A, 70 and 103 of the Commission of the Cartagena Agreement, Official Gazette No. 2.100 (Extraordinary), published 15 November 1977, García Montoya ER II, **RER-5 App. GM-158**, Article 62 ("The entities shall register **immediately** with the Superintendent of Foreign Investments the [foreign] contracts and lines of credit entered into") (emphasis added).

[366] TICAPSA, García Montoya ER II, **RER-5 App. GM-159**, p. 7, quoting Article 2 of Resolution 1610 ("*Los contratos o líneas de crédito externo a plazos de hasta ciento ochenta (180) días o sus renovaciones, que hayan celebrado las empresas dentro de los ciento ochenta (180) días continuos anteriores a la presente fecha y que no hayan sido aún registrados, deberán ser presentados para su registro por ante la Superintendencia de Inversiones Extranjeras en un plazo no mayor de cinco (5) días hábiles, contados a partir de la fecha de la presente Resolución*").

[367] TICAPSA, García Montoya ER II, **RER-5 App. GM-159**, p. 12 ("*Ahora bien, conforme se evidencia de los autos, la solicitud de registro Nº 117 de fecha 23 de febrero de 1983, no fue procesada por la Administración, por lo que aun cuando existía una solicitud, para la fecha en la que se publicó la Resolución Nº 1.610 del Ministerio de Hacienda, antes citada, a saber, 1º de marzo de 1983, no se había verificado el registro del contrato, por lo que en todo caso la compañía recurrente podía haber solicitado nuevamente dentro de los cinco (5) días hábiles*

256. Thus the Supreme Court's *ratio decidendi* in *TICAPSA* was permeated by factual considerations not present in the current dispute between the Parties. On the one hand, the term "immediately" of Article 62 is distinct from the term "promptly" in Article 14.3(a) of the Hamaca AA. On the other hand, and more importantly, Resolution 1610 imposed a clear peremptory term that, in contrast, is lacking in the Hamaca AA. In addition, principles of efficiency and speed innate to the proper discharge of administrative functions also played an important role in the way the Supreme Court approached the case.[368] It is not clear whether these principles, however, ought not be given nearly the same weight in a contractual setting.

257. The Tribunal therefore determines that the Claimants' belated compliance with the notice requirement *vis-à-vis* the Income Tax Increase does not entail, under Venezuelan law, the *caducidad* of their right to seek compensation for the harm caused by said DA. The Claimants' notice by way of their RfA is sufficient to comply with Article 14.3 of the Hamaca AA.

258. Accordingly, the Claimants are entitled to obtain compensation under the Hamaca AA for the harm caused both by the Expropriation and the Income Tax Increase as incurred, namely, from the year 2007 onwards.

e. *The alleged obligation to exhaust alternative remedies and the consequences thereof*

259. The Respondents argue that the AAs expressly obligated the Claimants to exhaust all domestic legal and administrative remedies as a pre-condition for obtaining compensation.[369] To that effect, they rely on the Congressional Authorizations of the AA's, their negotiation history, the text of the AAs themselves, as well as on witness evidence. In short, the Respondents submit that such exhaustion requirement extended to remedies available to obtain "revocation", "reversal" or "relief [or remedy] from the application of" DAs, or actions that would "eliminate or lessen the impact" of the said DAs. In the Respondents' view, the Claimants' pursuit of ICSID proceedings

---

previstos a tal fin, el registro del contrato de crédito en cuestión, pues el artículo 2º de la referida Resolución aludía a las contrataciones que todavía no hubieran sido "registradas").

[368] TICAPSA, García Montoya ER II, **RER-5 App. GM-159**, p. 12 ("*De esta forma, tomando en consideración que los términos y plazos previstos para la realización de trámites ante la Administración, atienden a los principios de eficacia y celeridad conforme a los cuales debe desarrollarse la actividad administrativa, de acuerdo con lo previsto en el artículo 30 de la Ley Orgánica de Procedimientos Administrativos, la Sala considera que la solicitud de registro de contrato de crédito externo, fue realizada por la actora extemporáneamente*").

[369] R-PHB, § 558.

does not fulfil this requirement under the AAs, as it will not result in such a remedy.[370] Accordingly, the Claimants' failure to comply with the "express" exhaustion requirement of both AAs "provides an additional ground for dismissal" of the DA claims in their entirety.[371]

260. The Claimants do not regard the AAs as mandating exhaustion of alternate remedies. According to the Claimants, the pursuit of alternative remedies when faced with DAs "is not a pre-condition to bringing a claim for indemnification under the DA provisions".[372] In any event, the Claimants submit that ICSID arbitration was the only viable, practical and appropriate recourse available to them—a remedy that has been diligently pursued and must therefore be deemed exhausted.[373]

261. In this context, the Claimants stress that attempting to pursue local proceedings would have been futile.[374] Relying on allegedly well documented deficiencies in the Venezuelan judicial system (burdened with systemic problems concerning the rule of law, separation of powers, and corruption), the Claimants submit that the "notion that [they], in 2007, could have achieved justice against the Chávez Administration in Venezuelan courts is absurd."[375] On this basis, the Claimants argue that ICSID arbitration offered the only realistic chance of obtaining relief from the DAs at issue.[376] In turn, the Respondents submit that "futility" is not a recognized defense under domestic law and further point to various remedies that the Claimants could have pursued to obtain remedies against the DAs.[377]

262. By and large, the Respondents' overall contention is premised on the following two assumptions:

i. Before obtaining compensation for the damages caused by a DA, the Claimants were required to first exhaust local remedies intended to revoke or reverse the qualified measure at issue. In turn, this presupposes that the terms "revocation", "reversal", "relief from the application", "eliminate or lessen the impact", and "remedy from the application" (used either in the AAs and/or

[370] R-PHB, §§ 557-559.

[371] R-PHB, § 565.

[372] C-PHB, § 161.

[373] C-PHB, §§ 166-168.

[374] C-PHB, § 169.

[375] C-PHB, § 174.

[376] C-PHB, § 174.

[377] R-PHB, § 563.

their negotiating history), are all synonymous and distinct from legal actions claiming for damages (such as resorting to ICSID arbitration).[378]

ii. Any remedy seeking to revoke, reverse, or obtain relief from the application of a DA was to be sought through domestic judicial and/or administrative proceedings. As such, ICSID arbitration was not the appropriate forum for the Claimants to have pursued compensation for any harm caused by DAs.[379]

263. As discussed further under each AA separately, the Respondents' position is untenable.

i. Under the Hamaca AA

264. Article 14.3(a) of the Hamaca AA states that, "[i]n the event that a Foreign Party considers that a Discriminatory Action has occurred, it promptly shall give notice thereof (a "Notice of Discriminatory Act") to Corpoven Sub and shall indicate whether it believe[s] that such Discriminatory Action will result in Material Adverse Effect. Promptly following receipt of such a notice, Corpoven Sub shall inform the notifying Party of whether or not Corpoven Sub agrees that the notified action is a Discriminatory Action which may lead to a Material Adverse Effect. Following Corpoven Sub's response, the claiming Party (the "Claiming Party") [i.e. CPH] and Corpoven Sub shall promptly meet to **discuss any available legal remedies, such as court or administrative proceedings, that may be appropriate to reverse or obtain relief from the alleged Discriminatory Action**".[380]

265. The Hamaca Congresional Authorization ("HCA") established that the Claimants were to "exhaus[t] **all** remedies conferred upon [them] by the law to obtain the **revocation** of the discriminatory measures [in question]" before obtaining some form of compensation.[381] Materially identical language was suggested by the National Executive in the draft of the Conditions for the Hamaca Project,[382] and by the Congressional Bicameral Commission of Energy and Mines.[383] That being said, the wording finally incorporated into the Hamaca AA is different. Article 14.3(a) of the Hamaca AA disposes of the "all remedies" requirement in the HCA. Instead it refers to

[378] R-PHB, §§ 557, 562, fn. 1122.

[379] R-PHB, § 558.

[380] Hamaca AA, **C-3**, Article 14.3(a) (emphasis in the original, bold added); *supra* § 109.

[381] Hamaca Congressional Authorization, **R-011,** Twenty-First Condition (emphasis added); R-PHB, § 522.

[382] National Executive Report for Hamaca, **R-213**, p. 43; R-PHB, § 522.

[383] Hamaca Bicameral Commission Report, **R-214**, p. 29; R-PHB, § 522.

"any available legal remedies".[384] From the term "cualesquiera" in the original Spanish version of the Hamaca AA,[385] "any" is tantamount to "either" or even "whichever".

266. The Hamaca AA also broadens the scope of the HCA by including other legal remedies that can be pursued in the interest of redressing the harm caused by a DA. Rather than limiting itself to remedies attaining the "revocation" of the DA,[386] Article 14.3(a) of the Hamaca AA refers to legal remedies that "may be appropriate to **reverse** or **obtain relief** from the [application of the] alleged [DA]".[387] Contrary to the Respondents' main assumption,[388] it cannot be that the terms "revocation", "rever[sal]" and "obtain relief from the [application]" are indistinguishable (i.e. all requiring to "annul[l]" the "administrative act or the law that created the specific Discriminatory Actions").[389]

267. First, failure to differentiate between the aforementioned terms would lead to the conclusion that the Parties sought to accord the same significance and meaning to different terms. This is even more so considering that Article 14.3(a) itself refers to the term "reverse" alternatively to the term "obtain relief" — the provision does not require a legal remedy to obtain both "revers[al]" of a DA and "relief" from the application of a DA.[390] Conversely, had the Parties intended to exclude legal remedies whose primary objective is to secure the payment of compensation (such as ICSID arbitration), the "revocation" standard contained in the HCA would have been maintained.

268. Second, while Article 14.3(a) of the Hamaca AA somewhat departs from the Twenty-First Condition of the HCA,[391] it does not mean that both instruments are in conflict.

---

[384] The Tribunal notes that, in its relevant part, the Spanish version of Article 14.3(a) of the Hamaca AA, reads as follows: "[…] ***cualesquiera recursos legales disponibles*** […]" (Hamaca AA, **C-3** (original in Spanish), Article 14.3(a), p. 542). In this regard, the Tribunal is aware that the official English translation of the Hamaca AA translates the terms "*cualesquiera recursos legales disponibles*" as "formal legal remedies" (Hamaca AA, **C-3**, Article 14.3(a)). Nevertheless, the Tribunal agrees with the Respondents' submission that, in this part, the original Spanish version of the Hamaca AA is better translated as "any available legal remedies" (Rejoinder, fn. 678; R-PHB, fn. 382). In this context, the Tribunal wishes to emphasize that the Hamaca AA was originally executed in Spanish and that, "[i]n the event of any conflict between the Spanish language document and its respective translation, the executed document shall prevail for all purposes" (Hamaca AA, **C-3**, p. 99). Incidentally, the Tribunal notes that the Petrozuata AA was also executed in a "single original in the Spanish language" (Petrozuata AA, **C-1**, Section 13.17).

[385] Hamaca AA, **C-3** (original in Spanish), Article 14.3(a), p. 542 ("*cualesquiera recursos legales disponibles*").

[386] *Supra*, § 264.

[387] Hamaca AA, **C-3**, Article 14.3(a) (emphasis added).

[388] *Supra*, § 264.

[389] Tr. (Day 7), 2014:13-2015:4 (Prof. García Montoya); R-PHB, fn. 1122.

[390] I.e., reference is made to legal remedies that "may be appropriate to **reverse <u>or</u> obtain relief** from the [application of the] alleged [DA]" (emphasis added).

[391] *Supra*, §§ 265, 266.

The Twenty-Seventh Condition of the HCA provides that the Hamaca AA, "in its final version, before it is signed, shall be sent to the Ministry of Energy and Mines so that, prior to its approval by the President of the Republic in Council of the Ministers, it can be sent to the Legislative Chambers of Congress, so that they, by agreement, may verify that it meets these conditions".[392] It is common ground that the process in the Twenty-Seventh Condition of the HCA was carried out.[393] Consequently, the final version of the Hamaca AA was deemed HCA-compliant.[394] The same is acknowledged by the Hamaca AA itself.[395] As such, it is reasonable to accept that, in the event of "any inconsistencies between [the Congressional Authorization of April 1997]" and the [Authorization of the final Hamaca AA of June 1997], which is the [Hamaca AA] itself, the [Hamaca AA] controls".[396]

269. Third, the record allows distinctions to be drawn between "revocation", "rever[sal]", and "obtain relief from the [application]" of a DA. "Revocation" is generally carried out by the same institution vested with the authority to issue the disputed measure in the first place. This coincides with the understanding of Prof. García Montoya that, pursuant to a "*recurso de reconsideración"*, the entity issuing a measure may be called upon to modify or revoke it.[397] In turn, "rever[sal]" is arguably similar to a

392 Hamaca Congressional Authorization, **R-11**, Twenty-Seventh Condition.

393 C-PHB, § 4(a); R-PHB, fn. 32.

394 Authorization of the final Hamaca AA, **C-62**; Tr. (Day 5), 1374:13-15 (Dr. Mommer).

395 Hamaca AA, **C-3**, Preamble ("Each of the above-named Parties has been authorized to enter into an association in accordance with the conditions authorized by the Congress of the Republic of Venezuela by Congressional Resolution *(Acuerdo)* dated April 24, 1997, published in the Official Gazette of the Republic of Venezuela No. 36,209, dated May 20, 1997 (the "Conditions") **and specifically to enter into this Association Agreement** and agreements in the forms attached as Exhibits hereto pursuant to Congressional Resolution *(Acuerdo)* of the Congress of the Republic of Venezuela, dated June 11, 1997, published in the Official Gazette of the Republic ofVenezuela No. 36,235 dated June 26, 1997") (emphasis added). Evidently then, the Preamble of the Hamaca AA was concluded in accordance with the Congresional Authorization of 24 April 1997 and, in particular, pursuant to the Authorization of the final Hamaca AA of 11 June 1997. The Tribunal is aware that the Respondents also refer to Article 2.1(c) of the Hamaca AA in order to argue that the Hamaca Project was to be "carried out in accordance with the requirements set forth…in the Conditions" (Rejoinder, fn. 678; R-PHB, fn. 1114). With this the Respondents seem to suggest that the Congressional Authorization should somehow prevail over the text of the Hamaca AA. However, the Tribunal notes that Article 2.1(c) refers to the "activities contemplated in [the Hamaca AA]" (Hamaca AA, **C-3**, Article 2.1(c)). To wit, "all the vertically integrated activities necessary for the exploration, development, production, exploitation, blending, industrialization, transportation, refining, upgrading, and commercialization of Extra-Heavy Oil […] and the transportation and use or disposal of By-Products in the Project Area" (Hamaca AA, **C-3**, Preamble, Article 2.1(a)). Although it could have, Article 2.1(c) does not touch upon the DA provisions of the Hamaca AA.

396 Tr. (Day 2), 295:7-14 (Mr. Manning). The Tribunal is aware that the Respondents refer to the May 1996 Hamaca Preliminary Term Sheet (**C-41**, p. 21; Rejoinder, § 352; R-PHB, §§ 186, 553). The Preliminary Term Sheet contains wording similar to both the draft (*infra,* fn. 399) and final HCA (*supra*, § 264). However, given the difference in drafting between the Preliminary Term Sheet and the final text of the Hamaca AA, the Tribunal considers that the former is of no real assistance to interpret the latter.

397 García Montoya ER I (original in Spanish), **RER-1**, § 137 ("*En primer lugar, las Demandantes tenían a su disposición el recurso de reconsideración administrativa para obtener la modificación o* ***revocación*** *de cualquier acto administrativo de carácter particular*") (emphasis added). The Tribunal notes that the translated version of Prof. García Montoya's First Legal Expert Report employs the term "withdrawal" rather than "revocation" (García Montoya ER I, **RER-1**, § 137), but considers that such a variation has no impact on the Tribunal's view; Organic

revocation in that it may cause the challenged measure to cease to exist and generate effects. However, generally speaking, a measure tends to be reversed by an entity (judicial or administrative) different from the one issuing it in the first place. Regardless, it is not a foregone conclusion that one can exclusively "obtain relief from the [application]" of a DA by way of legal actions formally invalidating/terminating the DA at issue. First, ICSID arbitration would be an example in point whether it qualifies in the present context as one of the available remedies under Article 14.3(a) of the Hamaca AA. Second, in fact, nothing prevents "obtain[ing] relief from the [application]" of a DA through the payment of monetary compensation. Indeed, the Tribunal notes that the original Spanish version of the Hamaca AA does not even allude to "relief". Rather it speaks in terms of "eliminating the **effects** of the [alleged DA]".[398] Naturally, such drafting is not necessarily concerned with the formal existence or nullity of the disputed DA. It mostly caters to redressing the harm suffered as a result of a discriminatory and unjust qualified measure. In this context, a decision awarding damages is apposite. Overall, the Respondents appear to confuse the phrase "obtain[ing] relief from the [application]" in the official translation of Article 14.3(a), with the phrase "released [or exempted] from the application" in the draft HCA.[399] When contrasted, the latter may, to some extent, support the Respondents' position. However, the wording of current Article 14.3(a) of the Hamaca AA does not.

270. Fourth, construing the terms "revocation", "rever[sal]" and "relief from the [application]" as synonyms is problematic in light of the remainder of Article 14.3(a) of the Hamaca AA. In its relevant part, Article 14.3(a) states:

> [A]ny net **proceeds** received by [CPH] as a result of [legal remedies appropriate to reverse or obtain relief from the alleged DAs], net of legal fees and costs, shall **be applied against any amounts** ultimately determined to be owing by Corporven Sub to [CPH] or **reimbursed** to Corpoven Sub if Corpoven Sub has previously made **payments** to [CPH] in respect of such DA.[400]

Law on Administrative Procedures, Official Gazette No. 2.818 (Extraordinary), 1 July 1981, García Montoya ER I, **RER-1 App. GM-123**, Articles 91, 93, 94; *infra*, § 284 ss.

[398] Translation and emphasis added; Hamaca AA, **C-3** (original in Spanish), Article 14.3(a) ("*eliminar los efectos de la Accion Discriminatoria alegada*").

[399] Draft Hamaca Congressional Authorization, **R-144**, Twenty-First Condition (translation added); R-PHB, §§ 553-556. The Tribunal is aware that the Respondents translate the draft Twenty-First Condition as "relieve it from the application" of DAs. However, the original Spanish version reads "*liberarla de la aplicación de dichas actuaciones*". In view of this, the Tribunal considers that the term "*liberar*" is better translated as "relieved" or even "exempted". In any event, "relieve" (as translated by the Respondents) and "relief" (as in the official translation of Article 14.3(a) of the Hamaca AA) are not necessarily equivalent.

[400] Hamaca AA, **C-3,** Article 14.3(a).

271. As argued by the Claimants, the foregoing envisages the eventuality "to offset" two different amounts.[401] On the one hand, any amounts received by the Claimants directly from the Respondents in accordance with the indemnity granted by the DA provisions. On the other hand, any amounts received by the Claimants from, in principle, the Government, as the result of a legal remedy obtaining relief from the application of a particular DA.[402] If the Hamaca AA is interpreted to preclude the Claimants from directly seeking an award on damages, then the right to offset would therefore be essentially devoid of meaning. The Tribunal cannot uphold such a construction.

272. In light of the above, the Tribunal determines that Article 14.3(a) of the Hamaca AA allowed the Claimants to make direct recourse to any legal remedy "appropriate to […] obtain relief from the alleged [DA]"—including by way of seeking monetary compensation for the harm caused. The Tribunal's conclusion is consistent with the relevant witness evidence relied upon by the Respondents. Contrary to the Respondents' rather misleading portrayal of Mr. Manning's testimony,[403] Mr. Manning confirmed at the Hearing that Article 14.3(a) gave the Claimants two options when faced with a DA. On the one hand, seeking either the reversal (or the revocation) of the DA.[404] On the other hand, attempting to obtain monetary relief directly from the Government.[405]

273. The issue now turns to whether ICSID arbitration was an appropriate forum for the Claimants to obtain the aforesaid compensation or monetary relief. In this regard, the Respondents submit:

> [E]ven if the claim for damages asserted in the ICSID Arbitration could somehow be characterized as a remedy to obtain the "revocation," "reversal" or "relief from" Discriminatory Actions, the Hamaca Congressional Authorization requires the foreign party to exhaust "all remedies conferred upon it by the

[401] C-PHB, §§ 161, 163(b); Tr. (Day 7), 2015:5-10 (Prof. García Montoya).

[402] Tr. (Day 2), 304:13-23 (Mr. Manning).

[403] R-PHB, § 556. The Tribunal notes that the Respondents also refer to Mr. Appel's testimony at the ICSID Hearing (R-PHB, § 555). Nevertheless, Mr. Appel simply confirmed that the Twenty-First Condition of the Congressional Authorization required the revocation of the DA at issue before the Claimants could obtain compensation. The Tribunal has already dealt with the differences between the Congressional Authorization and the Hamaca AA (*supra,* §§ 264-268).

[404] Tr. (Day 2), 301:5-304:11 (Mr. Manning).

[405] Tr. (Day 2), 307:3-25 (Mr. Manning) ("**Q.** Yeah. But if you can't get it reversed, what is your compensation? **A.** Well, under this--under this--under this provision, if we can't get it reversed, then Corpoven would reimburse us for that. **Q.** Right. **A.** But if--**in the same instance** we are asked or told, **specified in this Agreement that we need to pursue relief ourselves**. So, and then it goes on, that if we obtain relief from **another source--the Government, for example**--that any payment would be **offset** by Corpoven's obligation. **Q.** Right. **A.** Or if Corpoven had already paid us, for example-- **Q.** Right. **A.** --then they would be us. **Q.** Right. **A.** So, it's anticipating us going forward and getting **relief** and/or Corpoven paying us and getting **reimbursed**") (emphasis added).

> laws," clearly referring to Venezuelan laws. Hamaca Association Agreement also required the foreign party to "diligently pursue" "any available legal remedies, such as administrative or judicial proceedings," which again is not a reference to ICSID arbitration. [406]

274. The Tribunal notes that there is no material disagreement between the Parties as to arbitration being a valid legal remedy under Venezuelan law.[407] Indeed, it would be difficult to argue otherwise. The 1999 Venezuelan Constitution expressly recognizes "alternative means of justice", such as arbitration, as part of the Venezuelan justice system.[408] Moreover, the Venezuelan Supreme Court has openly recognized the "**historical** […] constitutionalization of arbitration as an alternative dispute resolution method, […] this principle has been included in a number of **legislative texts**. [Accordingly, the Venezuelan Constitution] broadened the justice system to include alternative dispute resolution methods, including arbitration, **adding these mechanisms to the regular jurisdictional authority exercised by the Judicial Branch** […]".[409]

275. Against this backdrop there is no hesitation in finding that arbitration, and presumably, ICSID arbitration, can be considered either: (i) as a remedy conferred upon the Claimants "by the laws" of Venezuela, in accordance with the HCA;[410] and/or (ii) as an "available legal remed[y]", in accordance with the Hamaca AA.[411]

276. Admittedly, the Hamaca AA speaks of "**any** available legal remedies, **such as administrative and judicial proceedings**".[412] As the Respondents argue, a reference to "administrative and judicial proceedings" is not a reference to ICSID arbitration.[413] However, it is not a definitive exclusion of ICSID arbitration either.

---

[406] R-PHB, § 555.

[407] C-PHB, § 23 ("Respondents do not deny that international arbitration is a valid remedy under Venezuelan law"); R-PHB, fn. 112 ("'Professor Mata Borjas' only comment on this point was his statement that "arbitration is a valid remedy under Venezuelan law.' […] But the issue **is not** whether Venezuelan law permits the arbitration of disputes; **it is whether Claimants have met the requirements of exhaustion of "all" available remedies to obtain the "revocation," "reversal" or "relief from"** Discriminatory Actions **by seeking a monetary award in the ICSID Arbitration**. As Professor García Montoya confirmed both in his Second Report and at the Hearing, the answer is clearly no") (emphasis added). The Tribunal has already established that an award on damages (such as the one obtainable through ICSID proceedings) falls within the purview of Article 14.3(a) of the Hamaca AA (*supra*, §§ 264-272). Hence, all that remains standing in the Respondents' contention is not taking issue with how arbitration (presumably including ICSID arbitration) is indeed a valid remedy under Venezuelan law.

[408] 1999 Constitution, **CLA-36**, Articles 253, 258.

[409] *Interpretation of the rule contained in the sole subsection of Article 258 of the Constitution of the Bolivarian Republic of Venezuela*, Supreme Tribunal of Justice, Constitutional Chamber, Decision No. 1.541, 17 October 2008, **CLA-39B**, pp. 14, 21-22.

[410] Hamaca Congressional Authorization, **R-011**, Twenty-First Condition; *supra*, § 264.

[411] Hamaca AA, **C-3**, Article 14.3(a).

[412] Hamaca AA, **C-3**, Article 14.3(a) (emphasis added).

[413] R-PHB, § 558.

Article 14.3(a) of the Hamaca AA is drafted in a non-exhaustive fashion. The term "such as" leads the Tribunal to believe that the reference to "administrative and judicial proceedings" constitutes an indication or suggestion — certainly not a limitation. Further, the term "any available legal remedies" certainly does not exclude ICSID arbitration either. Put simply, the Hamaca AA does not "anticipatorily define or delimit the alternative remedies that might be available or that the Claimants might choose to pursue".[414] If it did, however, it would be questionable whether the Parties could be deemed to have waived "available legal remedies" (such as recourse to ICSID arbitration) before the existence of a dispute. Thus, Article 14.3(a) of the Hamaca, even more so than the HCA,[415] accommodates the possibility to resort to ICSID arbitration for the purposes of obtaining relief from the application of a particular DA. The Respondents' argument that the Parties did not contemplate the possibility of ICSID arbitration when entering into the AAs changes nothing.[416] The caveated text of the Hamaca AA left the window open.[417] For the Tribunal this is sufficiently dispositive of the issue in favor of the Claimants.

277. For the reasons set out above, the Tribunal determines that, by resorting to ICSID arbitration, the Claimants have adequately discharged the requirement to pursue alternative legal remedies in accordance with Article 14.3(a) of the Hamaca AA. Consequently, the Tribunal need not address the Parties' remaining arguments on the matter.

ii. <u>Under the Petrozuata AA</u>

278. Unlike with the Hamaca AA and the HCA,[418] the Petrozuata Congressional Authorization ("PCA") contains no requirement of the exhaustion of alternative remedies with respect to DAs. The PCA's Sixteenth Condition simply authorized the inclusion of provisions enabling the Respondents to compensate the Claimants when harmed by a DA.[419] The Petrozuata Bicameral Commission Report did contemplate

---

[414] C-PHB, § 167; Reply, § 227.

[415] In this context the Tribunal recalls its determination that, in the event of inconsistencies between the Congressional Authorization and the Hamaca AA, the latter must be deemed controlling (*Supra*, § 268).

[416] SoD, § 319; R-PHB, fn. 1121.

[417] Furthermore, the Tribunal notes that, albeit in a different context, the possibility of ICSID arbitration was contemplated in Article 17.8 of the Hamaca AA (**C-3**).

[418] *Supra*, §§ 259-264.

[419] Petrozuata Congressional Authorization, **C-25**, Sixteenth Condition ("Provisions shall be included in the Association Agreement that enable Maraven to compensate the other parties, on equitable terms, for significant adverse economic consequences directly resulting from decisions made by national, state or municipal administrative agencies or any changes in the law that, because of their content or purpose, result in an unjust discriminatory treatment of the Company or such other parties, always understood in their Capacity as such and

that, "in the event [a discriminatory and unjust qualified measure] takes place, the affected partner must exhaust the legal remedies that are available to it to **eliminate or lessen** the impact of such measures".[420] However, there is no mention of any exhaustion requirement in the actual draft Sixteenth Condition proposed by the Bicameral Commission for Congress' consideration.[421] This explains why the PCA fails to require the exhaustion of alternative remedies in order for the Claimants to obtain indemnity against the Respondents.

279. Notwithstanding the foregoing, Section 9.07(d) of the Petrozuata AA does state that, "to the fullest extent practicable, [the Claimants were required to] commence and exhaust **all available legal and administrative actions** which may provide **a remedy from the application of such [DAs]**".[422] In view of Section 9.07(d), the Respondents raise two main arguments. First, they argue that the requirement to pursue a "remedy from the application" of a DA in Section 9.07(d) concerns the standard set forth in the Petrozuata Bicameral Commission Report, namely, to pursue actions that would "eliminate or lessen the impact" of that DA. Accordingly, a claim for damages (as could be obtained by the Claimants in the ICSID Arbitration) does not meet that requirement—the requirement can only be satisfied by seeking the nullity of the DA. [423] Second, the Respondents contend that, in any event, the Petrozuata AA requires the Claimants to exhaust "all" remedies, not just the one deemed "appropriate" by the Claimants. [424]

280. The Respondents' first argument is tantamount to a *non-sequitur*. The requirement to seek a "remedy from the application" of a DA is akin to taking legal action to "eliminate or lessen the impact" of the said DA. Nevertheless, this does not mean that either standard precludes pursuing monetary compensation. Quite to the contrary, nothing points to the conclusion that one can only obtain "remedy from the application" of a DA through its invalidation or nullity. It is perfectly feasible to obtain such remedy through an award on damages (as through ICSID arbitration). It is telling

as parties to the Association Agreement, all without prejudice to the sovereign right to legislate inherent in the very existence of the national, state and municipal legislative branches").

420 Petrozuata Bicameral Commission Report, Mommer WS II, **RWS-3 Mommer App. 36**, p. 25 (emphasis added).

421 Petrozuata Bicameral Commission Report, Mommer WS II, **RWS-3 Mommer App. 36**, Annex A, p. 4.

422 Petrozuata AA, **C-1**, Section 9.07(d) (emphasis added). Despite the disconnect between the PCA and the Petrozuata AA, the latter states that "The transactions contemplated in this Agreement have been approved by the Venezuelan Congress in accordance with Article 5 of the Organic Law as set forth in the Official Gazette Number 35.293 dated 9 September, 1993" (Petrozuata AA, **C-1**, Antecedents, § 11).

423 R-PHB, § 562.

424 R-PHB, § 562.

that the Respondents are unable to advance any substantive convincing argument to the contrary and basically only rely on the text of Section 9.07(d) to support their defense.

281. The Tribunal's view is further confirmed by the "offset" provision in Section 9.07(d). Similarly to the Hamaca AA,[425] Section 9.07(d) of the Petrozuata AA contemplates that, should the Claimants be "ultimately successful in obtaining a remedy, or [otherwise obtain] **economic relief** intended to offset the [DA] as a result of another legislative or administrative action which was not generally applicable to most enterprises in Venezuela, then: (i) the [Claimants] shall refund [the Respondents] any discrimination compensation already payed which corresponds to the remedy or relief which has been obtained by the [Claimants]; and/or (ii) the damages shall be recalculated to take into consideration the remedy **or economic relief** obtained, as the case may be".[426] Again,[427] should it be understood that the Petrozuata AA precludes seeking remedy from the application of DAs through monetary compensation, then the "offset" provision of Section 9.07(d) would essentially be rendered without effect. Indeed, the explicit reference to "economic relief" by way of a distinct qualified measure suggests that, broadly, Section 9.07(d) is primarily concerned with the monetary consequence of a DA and not so much, if at all, with the formal validity of a DA within the Venezuelan legal system.

282. Overall, Article 14.3(a) of the Hamaca AA and Section 9.07(d) of the Petrozuata AA describe in similar terms the legal actions available to the Claimants to counter a DA. Accordingly, the considerations made by the Tribunal above with respect to the former are applicable, *mutatis mutandis*, to the latter.[428] Nevertheless, Section 9.07(d) encompasses two particular elements distinguishing it from Article 14.3(a). First, Section 9.07(d) does not make any reference to remedies appropriate to "reverse" a DA.[429] Second, lacking a requirement to exhaust alternative remedies before claiming indemnity from the Respondents, the PCA (as opposed to the HCA) does not call for the "revocation" of DAs.[430] In fact, neither does the Bicameral Commission Report.[431] Put simply, nothing in the text of Section 9.07(d) or its negotiating history suggests

[425] *Supra*, § 270; C-PHB, § 161; SoC, § 250.

[426] Petrozuata AA, **C-1**, Section 9.07(d) (emphasis added); C-PHB, § 163(a).

[427] *Supra*, § 271.

[428] *Supra*, §§ 269-271.

[429] *Supra*, fn. 387.

[430] *Supra*, fn. 381.

[431] Petrozuata Bicameral Commission Report, Mommer WS II, **RWS-3 Mommer App. 36**, p. 25.

that the Claimants were expected to seek the annulment or invalidation of the DAs at issue. Therefore, taken as a whole, Section 9.07(d) appears to incentivize securing monetary compensation as an appropriate remedy from the application of a DA. Consequently, the Tribunal determines that any legal remedy resulting in an award on damages complies with the requirements set forth in Section 9.07(d) of the Petrozuata AA.

283. In this regard, the Tribunal notes that the Respondents have not explicitly raised the alternative argument regarding appropriate forum as in relation to the Hamaca AA.[432] For the sake of clarity and completeness, however, the Tribunal is of the view that such an argument would have in any event failed. In the context of the Petrozuata AA, the argument would hypothetically run as follows: assuming that an award on damages could somehow be characterized as a "remedy from the application" of a DA under Section 9.07(d), the Petrozuata AA required the Claimants to pursue such remedy in domestic proceedings—not in international investment arbitration. Yet, as already established, arbitration is a valid legal remedy under Venezuelan law.[433] In turn, Section 9.07(d) of the Petrozuata AA requires the Claimants to pursue, *inter alia*, "legal […] actions". Notably, and contrary to the Hamaca AA,[434] Article 9.07(d) does not even attempt indicating or suggesting, in a non-exhaustive fashion, which "legal actions" those might be.[435] It follows that ICSID arbitration can be considered an appropriate forum to pursue compensation in accordance with 9.07(d) of the Petrozuata AA.

284. The Tribunal now turns to the Respondents' second argument, namely, that recourse to ICSID arbitration would in any event be insufficient to satisfy the exhaustion requirement of Section 9.07(d), as Claimants were to exhaust "all" remedies — not just one.[436] It is the Respondents' contention that Venezuelan law accorded the Claimants three avenues to address each of the DAs at issue, namely: "(i) a petition for reconsideration (*recurso de reconsideración*), an administrative remedy to seek the modification or withdrawal of an administrative measure; (ii) an autonomous summary proceeding to guarantee constitutional rights (*acción de amparo constitucional autónomo*), an action to challenge the constitutionality of legislative,

[432] *Supra*, fn. 406.

[433] *Supra,* §§ 273-275.

[434] *Supra,* § 276.

[435] C-PHB, § 167.

[436] R-PHB, § 562.

administrative or judicial acts; and (iii) a petition for annulment (*recurso de nulidad*) to have declared null any act of the Government in conflict with the Constitution or laws”.[437] Given that the claimants did not pursue any of these remedies, “[f]ailure to do so is failure to comply with the express requirements for obtaining compensation under the [DA] provisions of the [Petrozuata AA]. That failure precludes the assertion of [the Claimants' DA claims]”.[438]

285. The Respondents' position is unpersuasive. First, the Tribunal finds the Respondents' emphasis on the literal meaning of the Petrozuata AA to be somewhat inconsistent. When making its argument on the matter in the context of the Hamaca AA, the Respondents heavily relied on the HCA to bring the “revocation” standard therein into the Hamaca AA.[439] This, despite the fact that the Hamaca AA makes no reference to the “revocation” of a DA.[440] Nevertheless, the Respondents have conveniently ignored that, as seen, the PCA contains no exhaustion requirement whatsoever.[441] To the same extent, the Bicameral Commission Report that the Respondents rely upon[442] simply states the following: “the affected partner shall exhaust the legal remedies within its reach to eliminate or lessen the impact of the [DAs]”.[443] Once more, there is no indication that the Claimants were expected to exhaust each and every relevant remedy under Venezuelan law. Hence, if the Bicameral Commission Report (or any other pre-contractual document) is to be given interpretative value, as the Respondents submit should be the case,[444] then the term “all” in Section 9.07(d) should be construed as equivalent to “any” (as in the Hamaca AA).[445]

286. Second, the term “all” in Section 9.07(d) is qualified by the term “to the fullest practicable” in the same provision.[446] It may be the case that “practicable” constitutes

[437] SoD, § 324.

[438] SoD, § 324.

[439] R-PHB, §§ 552, 554-557.

[440] *Supra*, fn. 384-387.

[441] *Supra*, § 278.

[442] R-PHB, fn. 1125; *supra*, fn. 420-421.

[443] Petrozuata Bicameral Commission Report, Mommer WS II, **RWS-3 Mommer App. 36**, p. 25 (translation by the Tribunal).

[444] R-PHB, § 552-554, 559.

[445] *Supra*, § 264.

[446] Petrozuata AA, **C-1**, Section 9.07(d)(“The Injured Shareholder shall, to the fullest extent **practicable**, commence and exhaust **all** available legal and administrative actions which may provide a remedy from the application of such Discriminatory Actions”) (emphasis added).

a higher threshold than, for instance, "reasonable under the circumstances".[447] Notwithstanding the foregoing, "practicable" does suggest that the term "all" cannot be construed as an unfettered reference to "every" available legal remedy against the application of a DA. In the Tribunal's view, context matters.

287. The Tribunal has already established that Section 9.07(d) primarily endorses the Claimants' view on exhaustion of remedies whereby the Claimants could obtain monetary compensation for the harm caused by a DA (such as through ICSID arbitration).[448] This is consistent with the Bicameral Commission Report. The Report contemplated that, should the Claimants fail to succeed in their legal remedies to "eliminate or lessen the impact" of a DA, they could: "request a renegotiation of the terms of the AA and/or of its complementary agreements with the aim of compensating the economic damage caused by the discriminatory measure, in the sense that [they] would be placed in a position that, from an economic point of view, would be equivalent to the one [they] would find [themselves] under had the measure not taken place".[449] Evidently, legal remedies only attaining the invalidity of a DA would have resulted in the Claimants (always) being unsuccessful in obtaining redress for the economic damage caused by the DA. In other words, the mere invalidity of a DA (i.e. its exclusion as an existant qualified measure generating effects) would have (always) required either the renegotiation of the Petrozuata AA or further proceedings.

288. In turn, the Tribunal notes that, according to the Claimants, neither the "*recurso de reconsideración"*,[450] the "*acción de amparo"*, the "*recurso constitucional autónomo"*, nor the "*recurso de nulidad"*,[451] "would have resulted in compensation to the Claimants".[452] The Respondents indeed submit that the foregoing actions should have been nonetheless initiated.[453] Yet, they do not seem to contest the Claimants'

[447] Letter from Mr. van Wagenigen to Mr. Carillo, 16 September 1993, § 58:14-16 ("[…] we nevertheless note that mitigating actions should be actions that are 'reasonable under the circumstances' not those that are 'practicable', which is a higher standard").

[448] *Supra*, §§ 280-282; SoC, § 251

[449] Petrozuata Bicameral Commission Report, Mommer WS II, **RWS-3 Mommer App. 36**, p. 25 (translation by the Tribunal).

[450] The Tribunal notes that the Parties' experts agree that the *recurso de reconsideración* is only applicable to administrative acts, strictly speaking. Therefore, it is not at all relevant in the context of either the Expropriation or the Income Tax Increase (Brewer-Carías ER, **CER-5**, § 81; García Montoya ER II, **RER-5** § 127).

[451] *Supra*, § 284.

[452] R-PHB, § 173(b); Brewer-Carías ER, **CER-5,** § 82.

[453] R-PHB, fn. 1134.

assertion that, had they done so, compensation would not have been obtained.[454] As argued by the Claimants, ICSID proceedings appear to have constituted the only "viable alternative available"[455] potentially resulting in actual compensation.[456]

289. For the reasons set out above, the Tribunal determines that, by resorting to ICSID arbitration, the Claimants have adequately discharged the requirement to pursue "practicable" alternative legal remedies in accordance with Section 9.07(d) of the Petrozuata AA. Consequently, the Tribunal need not address the Parties' remaining arguments on the matter, including the Claimants' position on the futility of any local remedies.

f. The Congressional Authorizations

290. The Tribunal notes that the Twenty-First Condition of the HCA states as follows:

> In no case will it be understood that the application of [the DA provisions in the Hamaca AA] affects or restricts in any way the power of the governmental bodies ("*Órganos del Poder Público*") to adopt measures pursuant to the Constitution and applicable Laws.[457]

291. In turn, the Sixteenth Condition of the PCA reads as follows:

> [The DA provisions in the Petrozuata AA shall be included] without prejudice to the sovereign right to legislate inherent in the very existence of the national, state and municipal legislative branches.[458]

292. It is clear to the Tribunal that, in principle, the exercise of sovereign power cannot be limited by way of private agreement. That being said, nothing prevents contractual parties from envisaging the possible impact of State action in their undertaking and therefore providing for the contractual consequences in case of such eventuality.

293. Accordingly, Venezuela´s legislative, governmental, and regulatory power is by no means hindered by the AAs in general, and by the DA provisions therein in particular, nor by the Tribunal's determinations pursuant to the latter. The Tribunal's conclusions (summarized below)[459] should not be construed as questioning the validity or the legitimacy of the Royalty Measure, the Extraction Tax, the Income Tax Increase, or

[454] García Montoya ER II, **RER-5**, §§ 127-128;

[455] C-PHB, § 169.

[456] C-PHB, § 173(b)

[457] Hamaca Congressional Authorization, **R-011,** Twenty-First Condition.

[458] Petrozuata Congressional Authorization, **C-25**, Sixteenth Condition.

[459] *Infra*, § IIIB.293.

the Expropriation. Indeed, the Tribunal makes no pronouncement on Venezuela's sovereign prerogative to adopt these measures. Rather, the Tribunal's findings simply ascertain whether the aforementioned measures qualify as DAs in accordance with the corresponding definition provided in the AAs and, if so, whether and to what extent the Respondents (not Venezuela) must indemnify the Claimants pursuant to the said mutually agreed contractual mechanisms: in line with the HCA and the PCA, Venezuela's sovereign rights remain intact.

g. *Conclusion*

294. In light of the above analysis, the Tribunal finds that:

i. For a qualified measure to be characterized as a DA under the Petrozuata or the Hamaca AA, the said measure must be both: (i) "discriminatory"; and (ii) "unjust" as a result of causing SED or MAE.

ii. The Expropriation constitutes a "discriminatory" qualified measure under both AAs. Therefore, it meets the first prong for being deemed a DA.

iii. The Royalty Measure and/or the Extraction Tax cannot be considered "discriminatory" under either AA. Therefore, they do not meet the first prong for being deemed DAs.

iv. The Claimants have failed to substantiate why the Royalty Measure, the Extraction Tax, and the Expropriation, are – when assessed cumulatively (i.e. the Overall Expropriation) - "discriminatory" pursuant to the DA provisions of either AA. Consequently, the Overall Expropriation cannot be considered "discriminatory". As such, it fails to meet the first prong for being deemed a DA.

v. The Income Tax Increase constitutes a "discriminatory" measure under both AAs. Therefore, it meets the first prong for being deemed a DA.

vi. Both the Expropriation and the Income Tax Increase are "unjust" for having caused either SED or MAE to the Claimants. Therefore, they both meet the second prong for being deemed DAs.

vii. Thus the Expropriation and the Income Tax Increase meet both prongs for being deemed DAs. As such, the Expropriation and the Income Tax are the

only qualified measures at issue that can be characterized as DAs under either the Petrozuata AA or the Hamaca AA.

viii. The AAs contain provisions requiring the Claimants to notify the Respondents should they consider that a DA has taken place. This requirement must be assessed in light of its object and purpose, namely, to inform the Respondents of how a particular qualified measure could trigger their contractual obligations under the DA provisions of each AA.

ix. The record shows that, upon the occurrence of the Expropriation in 2007, the Respondents were aware of their indemnity obligations towards the Claimants in accordance with the DA provisions of the AAs. Accordingly, as far as the Expropriation is concerned, the notice requirements of the AAs were discharged in 2007.

x. There is no evidence on the record clearly accounting for the Respondents' awareness of the "discriminatory" and "unjust" treatment resulting from the Income Tax Increase. None of the communications sent by the Claimants after the adoption of the Income Tax Increase can be considered as an attempt to inform the Respondents of how, in the Claimants' view, the Income Tax Increase constituted a DA. It was with the commencement of this arbitration that the Respondents gained (in accordance with the AA's provisions) cognizance of the potential characterization of the Income Tax Increase as a DA. Accordingly, the notice requirements in the AAs in relation to the Income Tax Increase were only discharged in 2014.

xi. Section 9.07(e) of the Petrozuata AA precludes the Claimants from seeking compensation for all cash flows lost as a result of DAs prior to the year in which the AA's notice requirements are deemed satisfied. The Claimants are only entitled to receive compensation under the Petrozuata AA for the harm caused by: (i) the Expropriation, as from 2007; and (ii) the Income Tax Increase, as from 2013 (i.e. the fiscal year before the initiation of this arbitration).

xii. The Hamaca AA lacks a provision akin to Section 9.07(e) of the Petrozuata AA. Further, the Respondents have failed to demonstrate that the Claimants' belated compliance with the notice requirement *vis-à-vis* the Income Tax Increase entafils forfeiture of their right under the Hamaca AA to seek compensation for the harm caused by the said DA. The Claimants are

therefore entitled to obtain compensation under the Hamaca AA for the harm caused both by the Expropriation and the Income Tax Increase as incurred, namely, from the year 2007 onwards.

xiii. By resorting to ICSID arbitration, the Claimants have adequately discharged the requirement to pursue alternative legal remedies in accordance with Article 14.3(a) of the Hamaca AA and Section 9.07(d) of the Petrozuata AA.

C. THE WILLFUL BREACH CLAIMS

1. The Claimants' position

295. The Claimants submit that Articles 1264 and 1271 of the VCC[460] impose an obligation to perform contracts, such that the "total non-performance of [the] contract" and/or the "intentional destruction of a contract" constitutes a "willful breach", giving rise to an entitlement to damages.[461] The Claimants allege that the following two broad sets of actions constitute a "willful breach" of the Respondents' contractual obligations, and engage their civil liability under Venezuelan law:

(i) Failure to use "reasonable commercial efforts": According to the Claimants, the Respondents were obligated to exercise "reasonable commercial efforts" with a view to ensuring the success of the Projects. They contend that the Respondents' "reasonable commercial efforts" obligation arises from express provisions of the AAs,[462] and is informed by the context in which these contracts were entered into; as well as the duty of good faith set forth in Article 1160 of the VCC.[463] In this context, the Claimants argue that the Respondents' allegedly active role in

---

[460] VCC, **CLA-2**, Article 1264 ("Obligations shall be performed exactly as they were undertaken. The debtor is liable for damages in the event of breach."); Article 1271 ("The debtor shall be ordered to pay damages, both for the non-performance of the obligation as well as for the delay in the performance thereof, unless he proves that the non-performance or delay arises from an external cause not attributable to him, even though there has been no bad faith on his part.")

[461] C-PHB, §§ 2, 26, 179; SoC, §§ 164-213; Tr. (Day 1), 69-91 (Claimant's Opening Statement) (**Counsel**: "[…] A Party to a contract who acts in such a way as to disable itself from living up to its promises breaches that contract […] and if such actions are carried out intentionally, the willfulness of the breach makes it indispensable, as a matter of principle, to have aggravated sanctions in order to discourage intentional conscious breach.")

[462] The relevant provisions relied upon by the Claimants are Sections 2.04(a), 9.01(b) and Preambular Clauses 6 and 10 of the Petrozuata AA along with Articles 2.1(b), 10.4(a) and 10.5(a) of the Hamaca AA, which are set out in relevant part at §§ 335-337, *infra*.

[463] C-PHB, §§ 187, 198-206; VCC, **CLA-2**, Article 1160 ("Contracts must be performed in good faith, and are binding not only with respect to what is expressed therein, but also with regard to all the consequences arising therefrom, according to equity, custom, or the Law.").

collaborating with the Government and bringing about the destruction of the AAs constitutes a breach of this particular contractual obligation;[464]

(ii) The non-performance of the AAs and the Guarantees: The Claimants submit that under the above provisions of the VCC, the Respondents were obligated to perform the AAs and the Guarantees. They argue that the Respondents' total non-performance of these contracts "from 2007 onwards"[465] constitutes "the most fundamental breach" under Venezuelan law.[466]

296. Turning to the facts, the Claimants allege that the following acts/omissions by the Respondents constitute willful breaches of the above two broad obligations identified in the preceding paragraph:

> (a) public statements by Messers. Ramírez and Del Pino, and Dr. Mommer, and others, in 2005, 2006, and 2007 calling for "nationalization", "migration", the dismantling of the *Apertura*, and the subjugation of PDVSA to the State;
>
> (b) the roles played by Messers. Ramírez and Del Pino and Dr. Mommer from 2002 onwards regarding the transformation of the technocratic "old PDVSA" into the politicized "new PDVSA";
>
> (c) the dual roles of Mr. Ramírez and Dr. Mommer at the Ministry and PDVSA from 2004/2005 onwards;
>
> (d) PDVSA's desperate need for additional funds to meet its new social spending obligations in the lead-up to the final dispossession;
>
> (e) PDVSA's genesis and development of *Plan Siembra Petrolera…*from 2005 onwards…[and the] confirmation that '[t]his plan came out of the PDVSA, the plan was developed in PDVSA.'
>
> […]
>
> (h) Dr. Mommer's admitted role as the architect of the fiscal measures preceeding the final taking (the Royalty Measure, the Extraction Tax, and the Income Tax Increase), including at times when he was employed solely by PDVSA;

[464] The Tribunal also notes that the Willful Breach Claim has evolved since the beginning of this arbitration. In the Request, the Claimants alleged that the Respondents had willfully breached the AAs and the duty of good faith under Article 1160 of the VCC without any further substantiation. In their SoC and their Opening Statement during the Hearing, the Claimants appear to have clarified the Willful Breach Claims as a breach of various provisions of the AAs (as will be elaborated upon *infra,* §§ 335-337) which obligated the Respondents to exercise "reasonable commercial efforts" *vis-à-vis* the Projects. The final phase of this evolution was achieved in the C-PHB, where in addition to maintaining their argument regarding breach of various contractual provisions and the duty of good faith, the Claimants argued for the first time that the very non-performance of the AAs also constituted "the most fundamental of breaches" (C-PHB, § 26).

[465] C-PHB, § 2(b).

[466] The above two acts collectively constitute the Claimants' "Willful Breach Claims" and are respectively referred to as the "First Willful Breach Claim" and the "Second Willful Breach Claim.".

> […]
>
> (k) PDVSA's role in implementing the Nationalization Decree, and the fiscal benefits it reaped therefrom; and
>
> (l) PDVSA and its subsidiaries' total non-performance of the AAs and the Guarantees during the course of 2007 and thereafter.[467]

297. In opposition to the Respondents' arguments, the Claimants submit that (i) the Willful Breach Claims are arbitrable as they arise out of a series of contractual breaches and do not seek to challenge the validity of a sovereign act by the Government, namely the promulgation of the 2007 Nationalization Decree;[468] (ii) the Respondents cannot escape liability for their breaches by arguing that their actions/omissions were "in compliance with law" (i.e. the 2007 Nationalization Decree) because although this ground may be validly invoked in the event the law is external to the Respondents, the same does not hold true in the present case, where the Respondents were instrumental in both "*securing* and *implementing* the Nationalization Decree";[469] (iii) in any event, the Respondents' active role in securing and implementing the 2007 Nationalization Decree also means that this Decree was attributable to the Respondents and they are therefore the "cause" of the Claimants' loss;[470] and, finally, (iv) the Respondents' argument that the 10 year delay in asserting the Willful Breach Claims constitutes a "disloyal delay" under Venezuelan law is untenable, as the claims have been brought within the applicable statutory limitation period (i.e., 10 years) and, in any event, there was no obligation upon the Claimants to provide any notice of their Willful Breach Claims.[471]

2. The Respondents' position

298. First and foremost, the Respondents challenge the foundation of the Willful Breach Claims on the ground that they are not arbitrable. The Respondents submit that "the only identifiable conduct of Respondents alleged by Claimants [as constituting willful breach,] consists of compliance with law in implementing the concededly sovereign

---

[467] C-PHB, § 23. The Tribunal notes right from the start that out of the above statements, only the latter relates to the Respondents' alleged non-performance obligation, while the Claimants' focus is clearly on the Respondents' alleged breach of its "best efforts" obligation.

[468] SoD, §§ 206-215.

[469] Reply, § 5; SoC, §§ 202, 209.

[470] C-PHB, §§ 28-30.

[471] C-PHB, §§ 417-430.

acts of the Government", which is not arbitrable under Venezuelan law, as it is equivalent to challenging the validity of the sovereign act itself.[472]

299. Turning to the substance of the claims, the Respondents take the position that the Willful Breach Claims are "facially absurd" because none of the conditions for establishing civil liability (i.e., existence of an obligation, breach of the obligation, fault, damages and causal link) have been met.[473] In that regard, they emphasize that throughout the proceedings the Claimants have struggled, and ultimately failed, to identify any express contractual obligations that would have been breached by the Respondents. At best, the Claimants have come up with an assorted cluster of provisions to support their theory of the existence of "best efforts" obligations. However, these arguments are unsustainable, as they have the effect of requiring the Respondents to defy the law and the Government. The Respondents thus emphasize that there are no express contractual obligations at the heart of the Claimants' claim, and that, in any event, the Respondents have not breached any such purported contractual obligations.

300. The Respondents further submit that (i) the actions and omissions relied upon by the Claimants in support of the Willful Breach Claims were undertaken in compliance with the 2007 Nationalization Decree, and this precludes any fault and/or ensuing liability (i.e., the "compliance with law" defense);[474] (ii) the Claimants have failed to establish a causal link between the purported breaches and their loss, which is indispensable for proving civil liability under Venezuelan law;[475] and (iii) the fact that the Claimants failed to assert the Willful Breach Claims for a period of 10 years until the initiation of the present arbitration, constitutes a "disloyal delay" under Venezuelan law which precludes their right to assert such claims.[476]

3. Analysis

301. In light of the Parties' positions set out above, the Tribunal considers the following issues to be the most essential for its decision on the Willful Breach Claims:

---

[472] R-PHB, § 353.

[473] R-PHB, § 336.

[474] SoD, §§ 250-259; R-PHB, §§ 427-460.

[475] SoD, §§ 260-271; R-PHB, §§ 461-474. The Tribunal notes that while the Respondents have treated the question of their alleged fault and the requirement of a causal link as two separate elements/arguments concerning civil liabiliy, the Claimants appear to have merged the two elements. The Tribunal's treatment of these issues is elaborated upon at *infra*, §§ 443-487.

[476] SoD, §§ 272-279.

a. Are the Willful Breach Claims arbitrable?

b. Have the Respondents breached their contractual obligations under the AAs and the Guarantees? If so, have they done this willfully?

i. Do the Respondents have an obligation to exercise "reasonable commercial efforts" under the specific provisions of the AAs relied upon by the Claimants? Has this obligation been breached?

ii. Do the Respondents have an obligation to perform the contracts, and has this obligation been breached?

c. Is the Respondents' liability precluded on account of their acts/omissions being "in compliance with law"?

d. Is the Respondents' liability precluded due to the absence of a causal link between the Claimants' losses and the conduct purportedly constituting a breach of any obligation?

e. Does the Claimants alleged failure to assert the Willful Breach Claims for a period of around 10 years preclude them from bringing the claims by reason of their "disloyal delay"?

302. The Tribunal now turns to the discussion of each of these issues in turn.

a. *Are the Willful Breach Claims arbitrable?*

303. As a threshold issue, the Respondents have challenged the arbitrability of the Willful Breach Claims.

304. The Respondents submit that the Willful Breach Claims at their core only challenge the implementation of the 2007 Nationalization Decree by virtue of the fact that the Claimants have only sought damages for the implementation of the 2007 Nationalization Decree and have specifically resisted claiming damages for the impact of any of the other qualified measures, such as the Royalty Measure, the Extraction Tax and the Income Tax Increase.[477] In the Respondents' view,

[477] SoD, §§ 203-204; SoC, fn 467 ("Claimants have adopted a conservative position on damages in relation to the Willful Breach Claim. In particular, Claimants in this ICC arbitration limit damages for Willful Breach to losses arising from Respondents' role in the 2007 dispossession, and do not claim damages for willful breach in relation to the fiscal measures that preceded the Respondents' role in the dispossession."); SoC, fn 616 ("Although it is likely that Respondents were directly involved in the implementation of those fiscal measures, Claimants are not pressing those damages under the Willful Breach Claim."). The Tribunal also notes that according to the Respondents, the failure to claim damages for the other qualified measures in and of itself demonstrates the

challenging the "implementation" of the 2007 Nationalization Decree is effectively the same as challenging the Decree itself. Considering that the latter is an exercise of "sovereign authority", any related claim falls within the exclusive jurisdiction of the Venezuelan courts and is therefore not arbitrable.

305. Placing the above facts within legal context, the Respondents rely on Article 151 of the Venezuelan Constitution, which stipulates that public interest contracts (such as the AAs) cannot contain clauses providing for the resolution of disputes in foreign jurisdictions (such as international arbitration) unless this is necessary due to the nature of the contract.[478] The Respondents' expert, Prof. García Montoya, explains that the question of arbitrability of a dispute arising out a public interest contract rests on the *nature of actions underlying the claim* being asserted, namely, it is only if the actions forming the basis of the claim are *iure gestionis* (as opposed to *iure imperii*), that the claim will be arbitrable.[479]

306. The Respondents also submit that in line with Article 151, the Venezuelan Congress approved the arbitration clause in the AAs for the purpose of enforcing claims brought on the basis of the contractual obligations arising pursuant to the DA provisions and *only* pursuant to the DA provisions. The arbitration clause was never intended to, nor could it, cover resolution of any and all claims, including those based on "the implementation of the very laws that Congress reserved the right to enact"[480] as this would amount to challenging an *actum iure imperii*. According to the Respondents, such prohibition against arbitration also extends to the actions of a State company which is charged with implementing specific acts of the State. The Respondents thus contend that, as the only actions for which the Willful Breach Claims seek relief is the implemetation of the 2007 Nationalization Decree, it is squarely based on an *actum iure imperii*, and is therefore not arbitrable.[481]

Claimants' own lack of conviction in the merits of their Willful Breach Claims and should lead to their automatic dismissal (SoD, §§ 203-204; Rejoinder, §§ 214).

[478] 1999 Constitution, **R-208**, Article 151 (*infra,* § 315). *See also*, Code of Civil Procedure, Official Gazette No. 4.209 (Extraordinary), published 18 September 1990, García Montoya ER I, **RER-1 App. GM-8,** Article 608 of the VCC ("Disputes may be submitted to one or more arbitrators, of odd number, before or during a trial, as long as they do not involve issues concerning the status, divorce or the separation of spouses, or any other subject-matter where a settlement is impermissible."); Commercial Arbitration Law, Official Gazette No. 36.430, published 7 April 1998, García Montoya ER I, **RER-1 App. GM-9**, Article 3º of the Venezuelan Commercial Arbitration Law ("Disputes that are susceptible to a settlement, arising among persons capable of settling, may be submitted to arbitration. The following disputes are excluded: […] (b) Those that directly concern sovereign attributions or functions of the State or of persons or entities of public law").

[479] García Montoya ER II, **RER-5**, §§ 87-90.

[480] R-PHB, § 338; Tr. (Day 1), 161:12-162:16 (Respondents' Opening Submissions).

[481] R-PHB, § 339.

307. For this reason, although the Respondents accept that the Venezuelan Congress may have authorized the arbitration clauses in the AAs and the Venezuelan Supreme Court may have affirmed their constitutional validity, they maintain that it is wrong for the Claimants to interpret these decisions to the effect that they end up "constitut[ing] a blank check to arbitrate non-commercial disputes and effectively write the prohibition [against arbitrating claims pertaining to acts *iure imperii*] […] out of the Constitution."[482]

308. In support of their argument, the Respondents also rely on the jurisprudence of the Venezuelan Supreme Court which has consistently held that arbitration clauses in public interest contracts must be narrowly construed.[483] On this basis, they submit that regardless of the broad terms in which the arbitration clauses in the AAs have been drafted, they must be read narrowly so as to exclude the Willful Breach Claims.[484]

309. In response to the Respondents' arguments, the Claimants submit that the Respondents' position lacks any merit and that they merely seek to distort the Willful Breach Claims in order to escape liability. The Claimants oppose the Respondents' characterization of both the factual basis of the Willful Breach Claims as well as their interpretation of Article 151 of the Venezuelan Constitution pertaining to arbitrability of disputes arising out of public interest contracts.

310. Negating the allegation that the only action forming the basis of the Willful Breach Claims is the "implementation of the Nationalization Decree",[485] the Claimants first clarify that:

> [The] Willful Breach Claim is based on Respondents' **failure to perform their commercial obligations under the AAs and to promote the joint venture**. Chief among the breaches was Respondents' involvement in procuring the Nationalization Decree, but what is at issue in these proceedings is not the

[482] R-PHB, § 349.

[483] SoD, § 212-214 (emphasis added); *Minera Las Cristinas, C.A. (MINCA) v. Corporación Venezolana de Guayana (CVG),* Supreme Tribunal of Justice (Political-Administrative Chamber) (Venezuela), Case No. 2002-0464, Judgment dated 15 July 2004, García Montoya ER I, **RER-1 App. GM-5**, p. 39 (A mining contract was cancelled by a sovereign act. The Court held that the arbitration clause in the contract had to be construed narrowly); *Elettronica Industriale S.P.A. v. Compañía Anónima Venezolana de Televisión (C.A.V.T.V.)*, Supreme Tribunal of Justice (Political-Administrative Chamber), Case No. 2001-100, Judgment dated 5 April 2006, García Montoya ER I, **RER-1 App. GM-6**, p. 99. *See contra* Brewer-Carías ER, **CER-5**, § 43 (Prof. Brewer Carías distinguishes the case cited by the Respondents on the basis that it involved the declaration of nullity of the sovereign act and not only the contract). *See also*, García Montoya ER II, **RER-5**, § 93; Brewer-Carías ER, **CER-5**, § 43.

[484] SoD, § 212; García Montoya ER I, **RER-1**, § 22

[485] SoC, §§ 65-66.

> validity of that government act, **but rather Respondents' liability for their own unlawful conduct.**
>
> […]
>
> [They] do not ask the Tribunal to evaluate the consitituttionality or validity of sovereign powers of the Venezuelan State, nor to opine on the "implementation of sovereing decisions".[486]

311. As regards the Respondents' interpretation of Article 151, the Claimants contend that instead of focusing on the actions underlying individual claims and characterizing these as *iure gestionis* or *iure imperii* as the Respondents have done, regard must be had to the commercial nature of the contract as a whole. Should this interpretation hold true, then disputes arising out of public interest contracts can be submitted to arbitration as long as such public interest contracts are commercial in nature.[487]

312. Tying together the aforementioned factual premise and legal interpretation, the Claimants' expert Prof. Brewer Carías explained during his cross-examination that, while "arbitration cannot refer to matters that are related to the possibility of the State to adopt *imperii* acts", such as imposing a tax or enacting a law, a party can "make a claim…for damages based on an act *iure imperii*". This is because the subject matter of the challenge is not "the act of the State [or] the power of the State to adopt the decision".[488] Rather what is sought to be challenged are the actions undertaken by the Respondents in a separate and independent commercial capacity (as the Claimants contractual partner under the AAs), even if these actions are based on or arise out of the exercise by the State of its separate sovereign power to enact laws. Accordingly, the Claimants conclude that they seek to challenge PDVSA's violations of its own contractual obligations under the AAs – which are commercial in nature – and therefore the Willful Breach Claims are clearly arbitrable.

313. To add weight to this interpretation, the Claimants underline that the arbitration clauses in the AAs were expressly authorized by the Venezuelan Congress[489] for resolving **"[a]ny dispute or claim arising in connection with, [or] relating in any way to** […] the Association Agreement and/or the Project activity".[490] Accordingly, they argue that the Tribunal's jurisdiction over the Willful Breach Claims is properly

---

[486] C-PHB, § 452.

[487] C-PHB, § 493.

[488] Tr. (Day 6), 1688:21-1699:13 (Prof. Brewer-Carías).

[489] As discussed at *infra,* §§ 321-322*.*

[490] Hamaca AA, **C-3**, Article 17.2; Petrozuata AA, **C-1**, Section 13.16; Petrozuata Guaranty, **C-2**, Section 4; Hamaca Guarantee, **C-4**, Section 13.

founded upon the very terms of the arbitration clauses, which are capacious, and therefore should be interpreted as such.[491]

314. In view of the above, it appears to the Tribunal that the arbitrability of the Willful Breach Claims hinges on the resolution of the following two issues, to which the Tribunal turns next: (i) what is the correct legal test for determining arbitrability of disputes arising out of public interest contracts such as the AAs; and (ii) do the claims that allegedly give rise to a willful breach in this case satisfy such legal test.

i. What is the legal test for determining arbitrability of disputes arising out of public interest contracts?

315. In light of the submissions traversed above, it seems to the Tribunal that the Parties agree that the AAs are public interest contracts and that the issue of arbitrability has to be decided in light of Article 151 of the Venezuelan Constitution,[492] which provides as follows:

> In public interest contracts, **unless inapplicable by reason of the nature of such contracts**, a clause shall be deemed included even if not expressed, whereby any doubts and controversies which may arise concerning such contracts and which cannot be resolved amicably by the contracting parties, shall be decided by the competent courts of the Republic, in accordance with its laws and shall not on any grounds or for any reason give rise to foreign claims.[493]

316. Thus, the general rule under Article 151 appears to be that all disputes arising out of public interest contracts are subject to the exclusive jurisdiction of the local courts. However – and as both Parties seem to agree – where the contract is commercial or industrial in nature, the Congress can grant its authorization for disputes arising out of such a contract to be submitted to arbitration.[494]

317. In a nutshell, the disagreement between the Parties boils down to the legal test that needs to be applied in order to determine the arbitrability of a particular claim that has been raised under the AAs, which are admittedly public interest contracts. As opposed to the Claimants which rely on the *nature of the contract as a whole* as being determinative of the arbitrability of the claim, the Respondents focus instead on the *nature of the actions underlying each claim* and assert that if the claim challenges actions undertaken in sovereign as opposed to commercial capacity, it is not

[491] C-PHB, § 440.

[492] SoD, § 207; C-PHB, § 436.

[493] 1999 Constitution, **R-208,** Article 151 (emphasis added).

[494] C-PHB, § 436; Tr. (Day 6), 1691:9-1691:24 (Prof. Brewer-Carías); Garcia Montoya ER II, **RER-5**, §§ 87-90.

arbitrable. The Respondents maintain that the Willful Breach Claims do not assert any actions apart from the "implementation of the Nationalization Decree", which, being an act *iure imperii,* is not arbitrable. The Claimants, on the other hand, dispute such characterization of their claims and underline that they have challenged several breaches by the Respondents of their own contractual obligations, the implementation of the 2007 Nationalization Decree being only one of such breaches.

318. The Tribunal is not persuaded by the Respondents' interpretation of arbitrability under Article 151 of the Venezuelan Constitution. As the Claimants have rightly pointed out, arbitrability under Article 151 relates to the nature of the contract as a whole. The Tribunal notes that an exception to the default rule of exclusive jurisdiction over public interest contracts vesting in the domestic courts is made when the *nature of the contract* is commercial. Nothing in the language of Article 151 suggests that regard must be had to the nature of the actions that underlie the specific claim. For that matter, by the Respondents' own admission, Article 151 captures the well known distinction between acts *iure imperii* and acts *iure gestionis* that exists in the law of sovereign immunity and the resultant principle of restricted jurisdictional immunity.[495] Under this principle, when States behave as commercial actors and enter into contracts with private entities, they are not entitled to jurisdictional immunity for disputes arising out of such contracts *if the nature of the underlying contract* is commercial.[496]

319. Accordingly, in the Tribunal's view, in order to establish the arbitrability of the Willful Breach Claims it is sufficient that first, the *contract* is commercial in nature; and second, that the disputes giving rise to a willful breach arise out of such commercial contractual obligations, regardless of the nature of actions that underlie each claim.

[495] SoD, §§ 210-211.

[496] Ian Brownlie, PRINCIPLES OF PUBLIC INTERNATIONAL LAW (2008), **RLA-149**, p. 332 (Prof. Brownlie writes on the modalities of restrictive immunity as follows: "In any event the courts and governments of a number of states apply the principle of restrictive immunity and therefore it is necessary to examine the modalities of its application. The method most commonly referred to is the distinction between acts *jure imperii* (acts of sovereign authority) and acts *jure gestionis* (acts of a private law character), and the merits of this distinction must be examined. The basic criterion appears to be whether the key transaction was accomplished on the basis of a private law relationship, such as a contract"), p. 335 ("The following criteria are indicative of the competence *ratione materiae* of the legal system of the forum state, but are not conclusive of the question of competence either individually or collectively: *(a)* In the absence of agreement to the contrary, the legal system of the forum state is competent in respect of proceedings relating to a commercial transaction to which a foreign state (or its agent) is a party; *(b)* The legal system of the forum state is competent in respect of proceedings concerning legal disputes arising from relationships of a private law character to which a foreign state (or its agent) is a party; the class of relationships referred to includes (but is not confined to) the following legal categories: commercial contracts; contracts for the supply of services; loans and financing arrangements; guarantees or indemnities in respect of financial obligations; ownership, possession, and use of property; the protection of industrial and intellectual property…"). *See also* ILC Draft Articles on Jurisdictional Immunities of States and their Property with Commentaries, **RLA-152**, p. 13; Benedetto Conforti, INTERNATIONAL LAW (2014), **RLA-150,** p. 272.

The Tribunal thus proceeds to assess whether the facts alleged to give rise to the Willful Breach Claims satisfy the test set out herein.

ii. *Do the Willful Breach Claims satisfy the legal test?*

320. In making this assessment, the Tribunal needs to consider (i) the nature of the contract and (ii) the facts giving rise to the Willful Breach Claims.

First prong of the legal test: the nature of the contract

321. Turning to the first requirement of arbitrability of the contract, it is undisputed that the AAs are commercial in nature.[497] In this context, the Tribunal attaches particular weight to the fact that the Venezuelan Congress specifically authorized the AAs for both projects – along with the ICC arbitration clauses contained therein – on three separate occasions:

- On 10 August 1993, the Venezuelan Congress approved the conditions for the Petrozuata Project, including the ICC arbitration clause by way of the Petrozuata Congressional Authorization;[498]

- On 8 April 1997, the Venezuelan Congress similarly approved the conditions for the Hamaca Project, including the arbitration clause by way of the First Hamaca Congressional Authorization; and[499]

- On 11 June 1997, the Venezuelan Congress approved the final text of the Hamaca AA itself including the ICC arbitration clause in its present form.[500]

322. Moreover, in each case, the approved arbitration clauses were worded in the widest possible terms, covering the resolution of "[a]ny dispute or claim arising in connection with," or "relating to," the Association Agreement and/or the Project activity.[501] The text of these arbitration clauses attests to the fact that any commercial dispute anchored in AAs and the Guarantees is arbitrable. The Tribunal has noted the Respondents' argument – and the Supreme Court's jurisprudence – that disputes pertaining to sovereign actions and decisions should not be rendered arbitrable and pulled into the ambit of the arbitration clause even if the arbitration clause uses broad

---

[497] C-PHB, § 437; R-PHB, § 349.

[498] Petrozuata Congressional Authorization, **C-25**, Twenty Third Condition.

[499] First Hamaca Congressional Authorization, **C-59**, Twenty Second Condition.

[500] Second Hamaca Congressional Authorization, **C-62**.

[501] *Supra,* §§ 80-84.

language.[502] But this argument is contingent on the Tribunal making a finding that the Claimants are in fact challenging a sovereign decision as opposed to breaches of various provisions of the AAs. Therefore this argument relates to the factual scope of the Willful Breach Claims, namely, the second prong of the test set forth by the Tribunal above, and will be examined subsequently.[503] The argument does not, *in abstracto,* limit the scope of application of an arbitration clause, devoid of the factual context.

323. Furthermore, the Tribunal has also noted the Respondents' argument that the Congress' approvals were limited to disputes pertaining to the DA provisions alone and were intended for enforcing the commercial remedies that were expressly made available under the AAs against the Governments' DAs. However, such interpretation is not borne out by the language of the arbitration clause or that of the HCA or PCA. Nor can it be reconciled with the Respondents' position on the criteria to determine arbitrability, which contradicts their own admission of arbitrability of the DA Claims. Like the Willful Breach Claims, the DA Claims are also based on the Respondents' contractual obligations arising pursuant to purported discriminatory actions by the Government in relation to the Projects. Therefore*,* both the DA Claims and the Willful Breach Claims seek damages for the after-effects of a sovereign decision – in this case the qualified measures and the Expropriation – without challenging the validity of the Governments' decisions. Thus, to use the Claimants' words, which the Tribunal finds relevant, "[i]f the DA Claim is arbitrable, as Respondents concede, then so too must be the Willful Breach Claim, for the latter claim is no more 'sovereign' in nature than the former."[504]

324. In sum, the Tribunal concludes that the AAs and Guarantees are commercial contracts and that commercial disputes which may arise in connection with or relating to contractual obligations under the AAs and the Guarantees are arbitrable. The Tribunal's conclusion is reinforced by the fact that the Venezuelan Supreme Court has also upheld the constitutional validity of analogous arbitration clauses in other association agreements on the premise that the *underlying contract* (and not the claim) was commercial in nature.[505] Once again, the Tribunal has noted the Respondents' caveat that the Supreme Court's decision cannot be treated as a blank

[502] *Supra,* fn 483.

[503] *Supra*, § 314.

[504] C-PHB, § 449; Reply, § 153.

[505] *Appeal for Nullity filed by Simón Munoz Armas and others,* Supreme Court of Justice (Temporary Plenary Session), Exp. No. 812-829, Judgment dated 17 August 1999, **CLA-3**.

check to arbitrate non-commercial disputes. However, this argument too implicates the second prong of the test set out by the Tribunal, i.e. the factual scope of the Willful Breach Claims, to which the Tribunal turns next.

Second prong of the legal test: facts giving rise to the Willful Breach Claims

325. The Tribunal needs to determine which actions form the basis of the Willful Breach Claims and whether they give ground to breaches of contractual obligations under the AAs, or as the Respondents seem to believe, actually constitute a veiled challenge to a sovereign decision. The Tribunal recalls that the Respondents' key argument in this respect is that the only identifiable conduct (of the Respondents) forming the basis of the Willful Breach Claims is their action of implementing the Government's sovereign decisions, namely the 2007 Nationalization Decree, and this renders the claims non-arbitrable.

326. Contrary to the Respondents' position, the Tribunal finds that the Willful Breach Claim is more broadly based. The factual premise of the Willful Breach Claims comprises a chain of inter-connected events that led to the ultimate Expropriation.[506] The implementation of the 2007 Nationalization Decree by the Respondents is but one act that the Claimants complain about.

327. Thus, as will be elaborated in greater detail below,[507] the Claimants have argued that the Respondents were obligated under the AAs and the Guarantees to exercise reasonable commercial efforts to ensure the success of the Projects and to not act in a manner that would jeopardize the Claimants' interest therein as their joint venture partner. These obligations, according to the Claimants, included the duty to lobby the Government to ensure that the most favorable tax and royalty regime applied to the Parties and the Projects and to take decisions that would further the business of the Project and ensure its continuity. Instead, in the Claimants view, the Respondents actively collaborated with the Government of Venezuela, they became its "mouthpiece" and assisted in the development and implementation of the various steps that brought about the destruction of the AAs and the ultimate expropriation of the Claimants' interest in the Projects. According to the Claimants, such active

[506] C-PHB, Appendix A, Answers to Tribunals' Questions, Question No.3.

[507] *Supra,* §§ 331-417.

involvement on the part of the Respondents constitutes a direct violation of their best efforts obligations under the AAs and their general obligation to act in good faith.[508]

328. In the circumstances, the Tribunal is satisfied that the Willful Breach Claims comprise allegations of multiple breaches of the Respondents' obligations under the AAs and the Guarantees (and not merely the implementation of the 2007 Nationalization Decree) and are thus squarely arbitrable. Article 151 of the Venezuelan Constitution does not limit the arbitrability of claims like the one in the case at hand in any way.

b. ***The legal test for establishing the Respondent's alleged liability as a result of the Claimants' Willful Breach Claims***

329. In order to establish the Respondents' contractual liability for which compensation is payable, pursuant to Articles 1264 and 1271 of the VCC, the Claimants need to show that all of the following elements for establishing civil liability are satisfied: (i) existence of a contractual obligation; (ii) breach of the obligation; (iii) culpable character of the breach or fault, which is not excused by the intervention of a "non-attributable external cause"[509]; (iv) resulting damages and (v) a causal link between the breach and the damages.[510] The Parties appear to agree on the legal test for establishing civil liability and have addressed each of these elements in their submissions at length.

330. With due regard to the legal test for civil liability set out above, the Tribunal will begin its analysis by first assessing the Parties' positions with respect to the existence and the breach of any obligation, i.e., elements (i) and (ii) of the civil liability test mentioned above. These two elements will first be assessed in the context of the Claimants' First Willful Breach Claim, which is based on the Respondents' alleged breach of the "reasonable commercial efforts" obligation (Section III.C.3.c of the Award) and subsequently in the context of the Claimants' Second Willful Breach Claim, which is based on the Respondents' alleged non-performance of the AAs (Section III.C.3.d of the Award). Thereafter, Section III.C.3.e will address the defenses raised by the Respondents to preclude their liability for any purported breaches, which are based on elements (iii) and (v) of the civil liability test. In this

[508] *Supra*, §§ 296.

[509] The Tribunal notes that the Parties have taken different positions on which aspect of the civil liability test "non-attributable external cause" relates to. For the Claimants, it relates to the element of fault (i.e., element (iii) of the test). For the Respondents, it relates to the element of causation (i.e., element (v) of the test). The Tribunal addresses these arguments at *infra*, §§ 443-454.

[510] Garcia Montoya ER I, **RER-1**, App. **GM-30**; **RLA-135**, **133**.

regard, the Tribunal will address the Parties' arguments as to whether the Respondents are exonerated from liability due to the 2007 Nationalization Decree – on the basis of which the Expropriation took place –being external to the Respondents and therefore not constituting either the factually or the legally sufficient cause for the Claimants' loss. Lastly, in light of the Tribunal's assessment of the above four elements, the Tribunal will make its determination on damages, if any (element (iv) of the civil liability test).

c. *First Willful Breach Claim: the existence and breach, if any, of the Respondents' "reasonable commercial efforts" obligation (i.e., elements (i) and (ii) of the civil liability test)*

i. *The Claimants' Position*

The relevant contractual provisions

331. As to the first two elements of civil liability, i.e. the existence of an obligation and its breach, the Claimants argue that the Respondents were expressly obligated to use "all reasonable commercial efforts" to "assure the success of the Projects" pursuant to Sections 2.04(a), 9.01(b) and Preambular clauses 6 and 10 of the Petrozuata AA, as well as Articles 2.1(a), 10.4(a) and 10.5(a) of the Hamaca AA. As will be elaborated in greater detail below, the Claimants contend that the Respondents have breached this contractual obligation because the "Respondents themselves played a key role in the campaign of destruction of the Association Agreements from which they – above all – benefitted".[511]

332. The Tribunal recalls that according to the Claimants the scope of the Respondents' "reasonable commercial efforts" obligation is informed by (i) the text of the AAs and the Guarantees; (ii) the context in which these contracts were entered into; and (iii) the duty of good faith set forth in Article 1160 of the VCC.[512]

333. The Tribunal will examine each of the Claimants' above assertions in more detail.

334. First, the Claimants submit that the plain text of the AAs and Guarantees obligated the Respondents to promote the success of the Projects through the use of "best efforts" or "reasonable commercial efforts".

[511] Tr. (Day 1), 36:9-43:10 (Claimants' Opening Submissions); SoC, §§ 177-212.

[512] C-PHB, § 187.

335. With respect to the Petrozuata AA, they rely on Sections 2 and 9, which state in the relevant parts as follows:

> **Section 2.04(a)**
>
> In order to accomplish and give effect to this Agreement, each Party covenants and agrees to vote, or cause to be voted, the Shares owned by it in accordance with the terms and provisions of this Agreement. Each Party **also covenants and agrees that it will at all times act, take all such steps as may be reasonably within its power and use reasonable commercial efforts to cause [Petrozuata C.A.] to act in accordance with the provisions of this Agreement and the other Business Contracts.** Accordingly, the Parties hereby commit themselves to contribute their Ownership Percentage shares of the investments necessary to construct the upgrading facility and to produce and transport the Extra-Heavy Oil needed to supply said upgrading facility as set forth in the description of the Project attached as Exhibit "F" and made a part hereof, and any modification thereto duly agreed by the Parties.[513]
>
> **Section 9.01(b)**
>
> **The Parties will cause [Petrozuata C.A.] to conduct its operations in accordance with its Charter, in order to implement the Business Contracts, the Investment and Business Plan** and the Annual Work Program and Budget for [Petrozuata C.A.] as in effect from time to time. **Each of the Parties also agrees that at all times it will vote, act, take all steps reasonably necessary and use all reasonable commercial efforts to carry out and assure the success of the Project.** The operations of [Petrozuata C.A.] shall be carried out in accordance with, and subject to all laws applicable thereto and be so conducted as to avoid the application of any penalty, sanction or loss thereunder to [Petrozuata C.A.]. **None of the Parties will take any action not contemplated herein that may adversely affect the performance by [Petrozuata C.A.] of its obligations under its Charter or under any Business Contract.**[514]

336. The Claimants submit that these obligations are reinforced by the covenants in the Preamble of the Petrozuata AA, which reads in the relevant parts as follows:

> **Clause 6**
>
> The Parties wish to enter into this Association Agreement for the purpose of (i) establishing, operating and owning [Petrozuata C.A.] in Venezuela, (ii) carrying out the transactions contemplated in the Business Contracts and (iii) [taking all other steps] [carrying out all other activities][515] reasonably necessary to implement and develop the Project.
>
> **Clause 10**
>
> Each of [PDVSA Petróleo] and [Conoco] is committed to the development of the Assigned Area, the production and upgrading of Extra Heavy Oil and the sale of

[513] Petrozuata AA, **C-1**, Section 2.04(a) (emphasis added)

[514] Petrozuata AA, **C-1**, Section 9.01(b) (emphasis added).

[515] Two alternative translations provided by the Parties. For avoidance of doubt, the Tribunal notes that it does not find the differences to be vital in the assessment of the issues at stake.

Upgraded Crude Oil and by-products, in accordance with the said Investment and Business Plan.[516]

337. Turning to the Hamaca AA, the Claimants rely on the following provisions:

Article 2.1(b)

It is the intention and plan of the Parties to this Agreement that all Project activities be conducted in a safe manner preserving the environment in accordance with applicable law and **so as to make the best economic utilization of Project resources and assets to achieve the maximum benefit for the Project and the Parties in their capacity as participants in the Association**.[517]

Article 10.4(a)

The Parties shall use their best efforts, in accordance with Venezuelan law, to obtain, within sixty (60) days of the date of this Agreement, a favorable royalty regime for the Project and to have such regime, including (i) the Fiscalization Point, (ii) a mechanism for determining the royalty rate payable on Extra-Heavy Oil produced by the Parties in their capacity as participants in the Association and (iii) a mechanism for determining the value of Extra-Heavy Oil at the Fiscalization Point, evidenced in an agreement with the relevant governmental authorities. **The Parties shall use their best efforts to maintain at all times application to the Parties, in their capacity as participants in the Association, of the most favorable royalty regime permitted by law,** taking into account the existing legal regime and the economics of the Project, as such factors may change from time to time. **All formal approaches to, and meetings with, Venezuelan governmental authorities to establish such items shall be directed by the [Corpoguanipa],** provided that [Corpoguanipa] shall provide timely prior notice of each such approach or meeting to each Foreign Party and any Foreign Party, upon its request, may participate in such approach or meeting.[518]

Article 10.5(a)

The Parties are undertaking the Project on the basis that, in accordance with the Conditions, (i) all activities conducted by the Parties in their capacity as participants in the Association, and all Project activities conducted by the Association Entities, shall receive the treatment provided for in the sole paragraph of Article 9 of the Venezuelan Income Tax Law and (ii) the Project activities, as conducted by the Parties and the Association Entities, shall not be subject to taxation by municipalities (patente de industria y comercio) or states. **The Parties shall use their best efforts such that there will be applicable to the Parties at all times, in their capacity as participants in the Association, the most favorable tax regime permitted by law,** taking into account the existing legal regime and the economics of the Project, as such factors may change from time to time.[519]

338. Similarly under the Guarantees, the Claimants submit that PDVSA unconditionally guaranteed that it will "perform, or cause to be performed, each and every one of",

[516] Petrozuata AA, **C-1**, Preamble Clauses 6 and 10.

[517] Hamaca AA, **C-3**, Article 2.1(b) (emphasis added)

[518] Hamaca AA, **C-3**, Article 10.4(a) (emphasis added).

[519] Hamaca AA, **C-3**, Article 10.5(a) (emphasis added).

the obligations and duties of the PDVSA Subsidiaries under the AAs.[520] Therefore, according to the Claimants, PDVSA was equally obligated to ensure performance of the aforementioned obligations under the AAs.

339. Second, the Claimants submit that the abovementioned contractual obligations must be understood in light of the long term commitments made by the Respondents as part of the *Apertura Petrolera.* In particular, the *Apertura Petrolera* sought to attract foreign investment in the EHCO projects, *first* by reassuring investors that their investments would not be subjected to sudden nationalization as had occurred in 1975, pursuant to the 1975 Nationalization Law;[521] and *second,* by providing key incentives and protections against technical and commercial risks. Given this backdrop, the Claimants emphasize that it was incumbent upon the Respondents to act as "any co-venturers would have…in an undertaking of the size, risk, and length of the Associations"[522] and to protect the Projects against detrimental Government measures.[523]

340. The Claimants thus submit that the cumulative effect of the above express contractual obligations, along with the context in which the AAs and Guarantees were entered into, is to impose upon the Respondents an obligation "to promote and protect these long-term Projects, as well as [a] duty of performance under Articles 1264 and 1271 of the VCC."[524]

341. Third, the Claimants submit that the contours of the Respondents' obligations are clarified by Article 1160 of the VCC which stipulates that "[c]ontracts must be performed in good faith, and are binding [on the parties] not only with respect to what is expressed therein, but also with regard to all the consequences arising therefrom,

[520] Petrozuata Guarantee, **C-2**, Sections 2 and 3; Hamaca Gurantee, **C-4**, Clauses 2, 3 and 4.

[521] The 1975 Nationalization Law was enacted on 29 August 1975 under a constitutional mandate which permitted the State to reserve certain industries, exploitations for reasons of national interest. Pursuant thereto, all activities related to the exploration and exploitation of oil were "reserved to the State". PDVSA was created pursuant to this law. Article 5 provided for limited private participation in the oil industry through association agreements between PDVSA and private entities. The Claimants contend that the 1975 Nationalization Law immediately cancelled all existing oil concessions in Venezuela and reserved to the State all activities relating to exploration, exploitation, manufacturing, refining, and marketing of petroleum and petroleum by-products. Moreover the Government provided only partial compensation to the private international oil companies whose projects and rights were expropriated. According to the Claimants, this reduced faith amongst investors. Consequently, when Venezuela sought to attract investors to invest in the EHCO projects, PDVSA allegedly provided reassurances against the possibility of sudden and under-compensated nationalization. *See* SoC, pp 15 – 38; Organic Law that Reserves to the State the Industry and Trade of Hydrocarbons, Extraordinary Official Gazette No.1.769, published on 29 August 1975, **R-278**.

[522] Reply, § 72.

[523] C-PHB, §§ 195-197.

[524] C-PHB, § 187.

according to equity, custom, or the Law."[525] The Claimants' expert, Prof. Mata Borjas explained during the Hearing that "the commitments and the duty of good faith [in the context of] a [long-term and collaborative] joint venture between two Parties for a very specific purpose [such as the Projects] […] is different[526] in that it "entails loyalty, cooperation and an honest behaviour that ensures that the other party's legitimate expectations will be satisfied".[527] It also implies a duty to refrain from conduct that impedes or frustrates the contractual interest of and/or results in a disadvantage or detriment to the counter-party.[528] On this basis, the Claimants submit that:

> The obligation of good faith under Venezuelan law requir[ed] Respondents to honor the objective expectations of Claimants as their contracting partners and to cooperate with Claimants to accomplish the long-term purposes of the AAs and Guarantees […] Indeed, various provisions of the AAs expressly refer to "good faith," and this basic principle of Venezuelan law served as the backdrop against which Claimants and Respondents made the agreements that they did.[529]

The Respondents' actions that allegedly breach the "reasonable commercial efforts" obligation under the AAs and the Guarantees

342. Turning to the facts, the Claimants submit that through the following actions and/or chain of events, the Respondents played a key role in the destruction of the AAs and the Projects, thereby breaching their contractual obligation to exercise "reasonable commercial efforts":

1) The transformation of the "old PDVSA" into the "new PDVSA" and the role played by key officials of the PDVSA in the Overall Expropriation;

2) The Respondents' failure to object to the qualified public measures i.e. the Royalty Increase, the Extraction Tax and the Income Tax Increase;

3) The Respondents' role in confiscating the Claimants' Project interests; and

4) Links between the Respondents and the Government.

343. Elaborating upon each of the above elements, the Claimants make the following submissions.

---

525 VCC, **CLA-2**, Article 1160, *supra*, fn 463.

526 Tr. (Day 7), 1943:18-1944:6 (Prof. Mata Borjas).

527 Mata Borjas ER I, **CER-2**, §§ 58-60.

528 Mata Borjas ER I, **CER-2**, fn 46.

529 C-PHB, § 206; Petrozuata AA, **C-1,** Section 6.08(c), Section 11.04(b)(i), Section 13.14; Hamaca AA, **C-3,** Article 11.5(b), 14.1(a).

(1) The transformation of the "old PDVSA" into the "new PDVSA" and the role played by key PDVSA officials

344. According to the Claimants, the first step in the Respondents' campaign of destruction was the transformation of Respondent PDVSA. As noted by the Claimants' expert, Prof. Mares, in 2003 the technocratic and autonomous "old PDVSA" underwent a fundamental transformation. Around 18,000 PDVSA employees were removed and replaced with managers and directors that sympathized and complied with the policies and programs of the Chávez administration. Thus, a political and subservient "new PDVSA" emerged, which functioned simultaneously "as an operating company, development agency, political tool and government cash cow".[530]

345. The Claimants allege that the new PDVSA not only *complied with* the State measures/policy that led to the Expropriation, but played a critical role in *creating* such policy. The focus of this 'new PDVSA' was to "get working…as an operating, auxiliary arm of… the Ministry",[531] dismantling the *Apertura Petrolera* and restoring "Full Oil Sovereignty".[532]

346. The complicity of the "new PDVSA" was allegedly channeled through PDVSA officials such as Messrs. Ramírez, Rodríguez and Del Pino and Dr. Mommer. According to the Claimants, by virtue of their roles as President and/or Directors of PDVSA these individuals were legally bound to promote and protect the Projects. However, the Claimants submit that

> All of these individuals, who led the Respondents during the relevant period (2004 to 2007), were ideologically opposed to the *Apertura*, the AAs and the Guarantees, and they set about – and indeed succeeded in – destroying them. These individuals refused to protect the Projects from the measures that deprived Claimants of the royalty and tax regime that had been adopted to induce their vast investment in the Orinoco Oil Belt. And once the Projects were at a stage where PDVSA was theoretically able to take over operations on its own, Respondents, for reasons of politics and money, actively promoted their nationalization.[533]

347. Turning to the role played by each of the above named officials, the Claimants make the following allegations:

[530] C-PHB, § 213; Mares ER, **CER-1**, §§ 64-73.

[531] Ramirez 2005 Speech, **C-205**, p.10.

[532] C-PHB, § 216; Rondón de Sansó, THE LEGAL FRAMEWORK OF HYDROCARBONS THE IMPACT OF OIL IN VENEZUELA (2008), **CLA-8**, pp. 383-384.

[533] C-PHB, §§ 240-241.

- Mr. Ramírez was the personification of the "new PDVSA". From November 2004, he acted as both President of PDVSA as well as Minister of Energy and Mines. Crucially, the Articles of Incorporation and By-laws of PDVSA – which had previously stipulated a separation between the Government and the management of PDVSA – were specially amended to allow Mr. Ramírez to serve in both of these capacities.[534] This unique "dual role" allowed Mr. Ramírez to implement the objective of giving PDVSA control over the AAs: He "[…] (as PDVSA President) submit[ted] decisions to *himself* (as energy minister) for shareholder approval" and was heavily relied on by President Chávez to both formulate and carry out oil policy.[535] According to the Claimants it is inconceivable that Mr. Ramírez would have been able to maintain the division in his mind between the "dual hats" he wore.

- In addition, Mr. Ramírez was personally involved in the drafting and promulgation of the 2007 Nationalization Decree. The Claimants' expert, Prof. Brewer Carías, attested to the fact that "as a matter of Venezuelan law and practice, Mr. Ramírez would have been legally obligated to present, endorse, and promote the Nationalization Decree to secure its enactment."[536] Moreover, the Respondents' expert, Prof. García Montoya, also confirmed that "the one that formulates the policy in a given field is the Ministry, in this case Minister Ramírez – [which] he has to provide to the President in the Council of Ministers, and there is where it is

[534] Decree No. 3,299, Partial Amendment of Decree No. 2184 of 10 December 2002, Including the Act of Incorporation/By-laws of Petróleos de Venezuela S.A., Official Gazette No. 38,081, published on 7 December 2004, **C-112**, Article 2; Decree No. 3,264 (reprint), Appointing Mr. Rafael Darío Ramírez Carreño as Chairman of the Empresa Estatal Petróleo de Venezuela S.A. (PDVSA), Official Gazette 38,081, published on 7 December 2004, **C-113.**

[535] C-PHB, §§ 226-227.

[536] Brewer Carías ER, **CER-5**, § 72; Tr. (Day 6), 1611:12-1612:13 (**Q.** Does the Organic Law of Public Administration, the second text which has been quoted from here, add anything with respect to the responsibilities of Ministers? **A.** Yes. The Organic Law on Public Administration is precise, assigning to the Ministers, Article 60, as the "organs of the National Executive in charge of the formulation, adoption, monitoring, evaluation of policies, strategies, general plans, programs and projects on the matters of their respective competence, over which points of law they exercise authority." **I must say that the word in Spanish is—they exercise "rectoría," the full authority on the matters of their own competency. In that character, the Ministers are the responsible of the National Executive in the definition of the policies and the execution of the policies of the Government. They have to present the matters before the President. They have to present the matters before the Council of Ministers, and … according to Article 86 of the Law, the procedure for preparing this draft legislation, as it's said in this Article, "will begin in the competent Ministry or Ministries preparing the corresponding draft." The Ministers are the ones, therefore, that have to draft the draft legislation. They have to propose it before the Council of Ministers. "The Head of the Ministry proposing the draft," as it says in the Article, "must submit to the Council of Ministers the matter," and then, according to what the Council of Ministers could decide, they have to follow up the decisions and resubmit the matter to the Council of Ministers in order for it to be adopted as a Decree-Law** if it is the case of the legislation or be sent to the National Assembly for the sanctioning by the National Assembly. So, the Ministers are the key persons responsible of the drafting and the defending these acts before the Council of Ministers.) (emphasis added)

approved."[537] Thus, according to the Claimants, the Government could not have issued the 2007 Nationalization Decree without Mr. Ramírez's active participation.

- Mr. Rodríguez, Mr. Ramírez's predecessor as PDVSA's president, co-authored the 2001 Hydrocarbons Law which formed the basis of the qualified public measures that were enacted against the Projects. The Claimants' expert, Prof. Mares, notes that the decision to abrogate the Royalty Reduction Agreement (pursuant to which the royalty rate applicable to the EHCO Projects had been reduced from the ordinarily applicable 16.66% to 1%) was linked to Mr. Rodríguez's criticisms of the *Apertura Petrolera* and his staunch support for "full oil sovereignty".[538]

- Mr. Del Pino played an instrumental role in the forced "migration" of the Projects from private ownership to PDVSA pursuant to the 2007 Nationalization Decree. He subsequently represented PDVSA in the negotiations between Conoco and the Government in 2007 in relation to the Expropriation. He eventually succeeded Mr. Ramírez in the dual role of PDVSA President and the Minister of Energy and Mines.[539]

- Dr. Mommer was another oil nationalist who worked closely with Mr. Ramírez and Mr. Rodríguez, and also held dual positions – as Vice Minister of Hydrocarbons and as a Director on the Board of PDVSA. Moreover, as he confirmed at the Hearing, he was an outspoken critic of the *Apertura Petrolera* and the Association Agreements,[540] and played a personal role in "conceptualiz[ing] and promot[ing] each of the fiscal measures preceeding the final dispossession of the Claimants' interests in the Projects" namely, the qualified measures.[541]

(2) The Respondents' failure to use "best efforts" to resist the qualified measures

348. The Claimants submit that the Respondents breached their contractual obligations by failing to resist the changes being made by the Government to the fiscal regime applicable to the Projects. The Claimants maintain that the Respondents had assumed the obligation to use "reasonable commercial efforts" to ensure that the

[537] Tr. (Day 8), 2078:10-12, 15-20 (Prof. García Montoya).

[538] C-PHB, §§ 230-231; Mares ER, **CER-1**, § 68(e).

[539] C-PHB, § 232.

[540] "*The MUD seeks to rescue the Apertura Petrolera from the rubble of the Fourth Republic*", Interview with Dr. Mommer of 17 September 2012, **C-219**, p.4.

[541] Tr. (Day 5), 1437:5-1438:21; Tr. (Day 6), 1498:23-1499:21, 1505:5-10, 1507:17-24, 1519:1-1520:3 (Dr. Mommer).

most favorable fiscal regimes applied to the Projects, only because they were purportedly in a position to influence the Government in relation to its policies.[542] Consequently, it fell upon the Respondents to act in good faith and protest and/or lobby against measures such as the Income Tax Increase, the Royalty Measure and the Extraction Tax. Instead, the PDVSA officials not only eschewed any attempts to engage with the Government, but they in fact "played a significant role in developing and promoting these measures."[543]

349. For instance, the Claimants draw attention to Dr. Mommer's affirmation during the Hearing that he "conceptualized and promoted" each of the qualified measures;[544] and that he did so when he was not even part of the Government, but employed solely as a Managing Director of a PDVSA subsidiary. Moreover, during the Hearing, Dr. Mommer went so far as to say that "it would be absolutely absurd [for the Claimants] to go to PdV" to seek protection from the qualified measures or the Expropriation.[545] This, they say, goes to show that Dr. Mommer was acting in clear breach of his duty of good faith and loyalty towards PDVSA's joint venture partners under the AAs.[546] Similarly, Mr. Ramírez, acting in his capacity as the Minister, was responsible for imposing the Royalty Measure upon the AAs.[547] Finally, the Claimants also contend that the same PDVSA officials were equally responsible for getting the Board of Directors of the Projects to approve each of the qualified measures when they were enacted.[548]

(3) The Respondents' role in the confiscation of the Claimants' interest in the Projects

350. The Claimants assert that the Respondents played an active and integral role in the destruction of the Projects and a decisive role in the Expropriation.

---

[542] Manning Statement WS I, **CWS-2**, § 28; Mata Borjas ER I, **CER-2**, § 45.

[543] SoC, §§ 109-125.

[544] Tr. (Day 6), 1498:23-1499:21, 1505:5-10, 1507:17-24, 1519:1-1520:3 (Dr. Mommer).

[545] Tr. (Day 6), 1517:19-21 (Dr. Mommer).

[546] C-PHB, §§ 250-251.

[547] Letter from Minister Ramírez to PDVSA President Del Pino, 11 February 2005, **R-114**, pp. 1-2.

[548] The Petrozuata C.A. Board of Directors approved the application/implementation of the Royalty Measure at a Board Meeting held in November 2004 (Minutes of the Special Meeting of the Board of Directors of Petrolera Zuata, Petrozuata C.A., 30 November 2004, **C-110**) and the Hamaca Board of Directors followed suit in a meeting held in December 2004 (Hamaca Board of Directors Slideshow Presentation, 2 December 2004, **C-111,** Slide 5). Similarly, the Extraction Tax was approved by the Hamaca Board of Directors at their meeting in December 2006 (Minutes of Special Meeting Board of Directors of Petrolera Hamaca S.A., 18 December 2006, **C-153,** p. 4); Heinrich WS I, CWS-3, §§ 14, 18.

351. They submit that contrary to the Respondents' insistence that the Expropriation was solely President Chávez's "brainchild", public speeches by PDVSA officials in 2005 and 2006 clearly show that the Respondents were equally responsible for its conceptualization. The Claimants cite the following instances, among others:

- In May 2005, Mr. Ramírez presented a complaint against purported irregularities in the various association agreements that had been concluded with foreign investors pursuant to the *Apertura Petrolera*, to the relevant Government authorities established for this purpose. Therein he described the policy of Full Oil Sovereignty which included "the nationalization of the oil industry".[549]

- Around the same time, Mr. Ramírez delivered a speech before the Venezuelan National Assembly wherein he severely criticized the *Apertura Petrolera* as a "veritable assault on Venezuelan oil" and the 'old PDVSA' as "quintessentially anti-national".[550] Importantly, these ideas were being articulated at a time when Mr. Ramírez had taken up his role as President of the "new PDVSA".

- On 18 August 2005, in a speech "to the nation and […] the world", President Chávez announced that the Government and PDVSA were "reversing the [*Apertura Petrolera*] through the *Plan Siembra Petrolera"*[551] namely, the plan to recover control over oil through the nationalization of the association agreements. In the same speech, President Chávez attested to the fact that this *Plan* "came out of PDVSA [and] was developed in PDVSA."[552]

- On 19 August 2005, Mr. Ramírez delivered his own speech regarding the *Plan Siembra Petrolera*, affirming that its objective was to "recover and renationalize the oil production."[553]

- On 20 October 2005, in a public statement at an OPEC conference, Mr. Ramírez stated that "[W]e are willing to use all the strength of the new PDVSA and the Venezuelan State to capture the oil rent for the benefit of our people […] Our task

[549] Report submitted by Rafael Ramírez, Minister of Energy and Oil to the Special Commission to Investigate Irregularities in the Drafting, Conclusion and Implementation of the Operating Agreements, Strategic Partnerships and Internationalization Business of the National Assembly of Venezuela on 25 May 2005, Mares ER, **CER-1 CM-31**, pp. 5-6.

[550] *A National, Popular and Revolutionary Oil Policy*, issued by Corporate Public Affairs Management Unit Petróleos de Venezuela, S.A. in May 2005 ("Ramírez May 2005 Speech"), **C-132**, pp. 9 – 10.

[551] President Chávez's Presentation on PDVSA's "Strategic Planning", 18 August 2005, **C-264**, pp. 1, 8, 19.

[552] *Id.*, p.1

[553] Rafael Ramírez, "*We are going to renationalize oil production*", PDVSA Website, 19 August 2005, **C-265**, p. 1.

at the head of PDVSA and at the head of the Ministry of Energy and Petroleum, is to […] place [oil] in the hands of the Venezuelan State."[554]

- In March 2006, in a televised interview, Mr. Ramírez declared that "[T]he defeat of the oil sabotage […] has allowed us to control [PDVSA]. Now, it is directed by the Venezuelan State and now, it will allow us to dismantle the [*Apertura Petrolera*]".[555]

- In August 2006, Dr. Mommer informed the Claimants that they would have to accept the conversion/migration of the associations into *empresas mixtas* (mixed companies) with the Government's participation at 51%.[556]

352. In sum, the Claimants maintain that the above evidence unequivocally attests to the Respondents' integral involvement in the process leading up to the promulgation of the 2007 Nationalization Decree, their role in the development of the *Plan Siembra Petrolera* and their open hostility to the *Apertura Petrolera* and the AAs.[557]

353. Furthermore, the Claimants submit that in the aftermath of the 2007 Nationalization Decree, the Respondents played a key role in ensuring that the Claimants were dispossessed of their interest in the Projects. PDVSA officials, specifically Mr. Del Pino, allegedly "threatened" the Claimants to accept migration to the mixed enterprises regime (*empresas mixtas*), failing which full operation and control over the Projects would be transferred to PDVSA. Consistent with these threats, at midnight on 1 May 2007, PDVSA took control of the Projects. Following such dispossession, throughout June – July 2007, Mr. Ramírez and President Chávez publicly acknowledged the role that PDVSA had played in the migration process and in acquiring control over the hydrocarbon production business in the Orinoco Oil Belt.[558] Pertinently, Mr. Ramírez acknowledged that "only by getting PDVSA to work as a

[554] Rafael Ramírez, "*Full Oil Sovereignty: A popular, national and revolutionary policy*", PDVSA Speech Series #2, 20 October 2005, **C-269**, p. 6.

[555] "*Illegality of operating agreements",* VTV interview of Minister Rafael Ramírez (transcript of interview), 29 March 2006, **C-274**.

[556] Tr. (Day 6), 1541:21-22 (Dr Mommer).

[557] C-PHB, § 277.

[558] "*PDVSA controls 78% of shares in Orinoco Oil Belt businesses",* PDVSA Press Release, 26 June 2007, **C-194**; *Signing of the Memoranda of Understanding of the Succession Agreements for Mixed Companies,* Transcript of Speech by Rafael Ramírez, **C-195**; Chávez 2007 Speech, **C-197**.

subordinate to the State and for the State, [did] the Bolivarian Government manage […] to dismantle the *Apertura Petrolera*"[559] of which the AAs were a part.

354. According to the Claimants, the Respondents' actions were motivated by pure profiteering considerations as they derived extraordinary benefits from destroying the AAs. The revenues that the Respondents derived from the qualified measures helped PDVSA to defray its financial obligations towards the Government's new political/social programs. After the Respondents acquired the Projects in 2007, all of the revenues from the Projects were deployed to discharge their financial obligations towards Government spending.[560]

(4) Additional links between the Ministry and the 'new PDVSA'

355. Lastly, the Claimants mention four additional links between the Ministry and the 'new PDVSA', which they submit show the 'new PDVSA's' involvement in procuring the Expropriation: first, as admitted by Dr. Mommer during the Hearing, the salaries of "all directors of the Ministry were paid by PdVSA"[561] implying that both entities had access to the same pool of resources; second, again as Dr. Mommer confirmed during the Hearing, the Respondents and the Government (namely, the Ministry) were being advised by the same legal counsel in relation to the Expropriation;[562] third, PDVSA and the Government worked together to value the Projects both before and after the Expropriation. In fact, Mr. Del Pino was heavily involved in the post-Expropriation compensation negotiations with the Claimants even though at the time, he had no ministerial role; and fourth, at the time of the Expropriation, the Ministry and PDVSA occupied the same office complex.[563]

356. The Claimants consider it rather surprising that there are next to no records documenting the above interactions between the Respondents and the Government. They conclude that this can only mean that the documents are missing or that the Respondents are refusing to produce them. Accordingly, they have also asked the Tribunal to draw adverse inferences against the Respondents.[564]

---

[559] Alfredo Carquez Saavedra, *"Rafael* Ramírez*: Our Future Lies in the Belt"*, PDVSA "Orinoco Magna Reserva" Publication, **Exhibit C-247,** p. 2.

[560] C-PHB, §§ 286 ff.

[561] Tr. (Day 6), 1582:17-1583:7 (Dr. Mommer)

[562] C-PHB, §§ 303-304; Tr. (Day 5), 1440:12, 22-24 (Dr. Mommer).

[563] C-PHB, §§ 305-310.

[564] C-PHB, §§ 328.

ii. The Respondents' Position

357. The Respondents consider the claims asserted on the basis of the above express contractual provisions[565] "difficult to decipher" and "a collosal waste of everyone's time".[566] They point out that the "Claimants have been making [up the Willful Breach Claims] on the fly".[567] Insofar as the Claimants now allege a willful breach of the abovementioned "potpourri" of contractual provisions, they point out that the Claimants invented these claims for the first time in their SoC.[568] Up until that point, the Claimants were only asserting a rather nebulous and grossly exaggerated claim for "violation of the general [contractual] obligation of good faith" and for "tortious interference" with the AAs.[569] The Respondents take this "confusion in Claimants' case" as proof of the fact that the contractual provisions relied upon are completely irrelevant and consequently that the Willful Breach Claims are entirely devoid of any substance.[570] As far as the duty to act in good faith under Article 1160 of the VCC is concerned, the Respondents contend that the Claimants misapply the principle and attempt to create new contractual obligations that do not exist under the AAs.

358. Thus, the Respondents first argue that the contractual provisions relied upon by the Claimants are incapable of giving rise to any obligations at all, such that the question of breach does not even arise. Second, in the event any obligations do arise, the Respondents refute the Claimants' factual allegations in order to establish that there is no breach.

---

[565] *Supra,* §§ 325 *et. seq.*

[566] SoD, §§ 202-203.

[567] R-PHB, § 4.

[568] R-PHB, § 6; Tr. (First Session), 28:4-18 (Respondents' Statement) (**Respondents' Counsel**: "Now, one would normally think that, if the Parties to an agreement anticipate the possibility of certain events occurring and carefully negotiate what is to happen, exactly what is to happen when those events occurred, there is no reason or room for resorting to creative theories such as good faith or tortious interference. In other words, the very existence of this second category of claims is a good indication of how silly the first category is. So, the question is--and I'm sure you must be asking yourself this question--why did it take them seven years to claim compensation [for willful breach]? By seven years now, I'm measuring from the nationalization in 2007, not from the first event, which was 2004. That's over ten years. Why did it take them so long to claim compensation of the compensation provisions of the Association Agreements?"); Tr. (First Session), 15:17-16:7 (Claimants' Statement) (**Claimants' Counsel**: "But the role of the Respondents themselves in the Measures takes us beyond the passive no-fault partial indemnification mechanism of the Discriminatory Action Provisions. We thus focus on the active conduct of the Respondents in participating in the destruction of the Association Agreements, and we see two things: First, a willful breach of their obligations under the Association Agreements, which include the duty of good faith and fair dealing; or putting it in the alternative way, (2) interference by the Respondents in the performance of the Association Agreements, interference that, under Venezuelan law, constitutes an "*hecho ilícito*," which in French might be rendered as "*délits*" or in English, perhaps, as "tortious interference." These breaches entitled the Claimants to compensation for their actual damages suffered amounting to tens of billions of dollars.")

[569] R-PHB, § 4.

[570] R-PHB, §§ 354-357.

The Respondents' position on whether the provisions of the AAs entail an an obligation to exercise "reasonable commercial efforts"

359. The Respondents start by pointing out that throughout these proceedings, neither the Claimants nor their experts have had a clear idea as to the specific contractual obligations that have been breached. They state that it was only in the SoC that the Claimants first identified an "odd assortment of irrelevant recitals and clauses of the [AAs]" which they claimed were purportedly breached.[571]

360. Turning to this "odd assortment of […] recitals and clauses", the Respondents argue that under Articles 1264 and 1271 of the VCC, a fundamental requirement for civil liability to arise is the existence of an "obligation" which has been breached.[572] Their expert, Prof. García Montoya, explained during the Hearing that under Venezuelan law in order to support a claim for breach of contract it was necessary to prove specific acts, demonstrate how these acts violated contractual obligations and establish the causal link between the said acts and any incurred damage. In his view, the "type of general allegations made by Claimants" and the "odd assortment of […] recitals and clauses" did not meet these requirements.[573]

361. The Respondents then proceed to analyze each provision of the AAs relied upon by the Claimants[574] and demonstrate how these do not give rise to any specific obligations that can support the Willful Breach Claims:

- With regard to Clauses 6 and 10 of the Preamble to the Petrozuata AA[575], the Respondents contend that the Claimants have not "explained what obligation they thought was created by the[se] preambular clause[s]…nor explain[ed] how such a purported obligation could have been breached."[576]

- With regard to Clause 2.04(a) of the Petrozuata AA[577], the Respondents contend that the clause is irrelevant, first because the voting patterns it seeks to regulate is

[571] *See* R-PHB, §§ 354-362.

[572] VCC, **RLA-148**, Article 1264 ("*Obligations* must be complied with exactly as they have been subscribed. The debtor is liable for damages in case of breach." (emphasis added by Respondents)); Article 1271 ("The debtor shall be ordered to pay damages for non-performance *of the obligation* or for delay in performance, unless he proves that the non-performance or the delay arises from a non-imputable external cause, even if he did not act in bad faith." (emphasis added)).

[573] García Montoya ER II, **RER-5**, §§ 59-60.

[574] *See* § 334-337 *supra.*

[575] *See* § 336 *supra*.

[576] R-PHB, §§ 369-371.

[577] *See* § 335 *supra.*

not under dispute and second because in line with the clause, the Respondents have never caused the Petrozuata C.A. to not act in accordance with the provisions of the Petrozuata AA or other contracts.

- With regard to Clause 9.01(b) of the Petrozuata AA[578], the Respondents argue that while this clause undoubtedly calls upon both shareholders to "take all steps necessary and use all reasonable commercial efforts to carry out and assure the success of the Project", it does not imply that the Respondents may violate the law or overthrow the Government in the process. To further support their argument they point to the fact that Clause 9.01(b) itself stipulates that the "operations of the [Petrozuata C.A.] shall be carried out in accordance with, and subject to all laws applicable."[579]

- With regard to Article 2.1(b) of the Hamaca AA[580], the Respondents point out that this clause is entirely irrelevant and does not translate into the sweeping obligations the Claimants posit as the basis for their claims. In particular, the dispute does not concern the Parties' intention to conduct the Project activities "in a safe manner preserving the environment" or "[ensuring] best economic utilisation of Project resources and assets."[581]

- With regard to Article 10.4(a) and 10.5(a) of the Hamaca AA[582], which require the use of best efforts to maintain the application of the most favorable royalty and tax regimes respectively, the Respondents argue that to start with, the Claimants have disavowed making any claim for willful breach on the basis of the Royalty Measure or the Extraction Tax, and that in any event, both clauses subjected the use of "best efforts" to the existing legal regime which would undoubtedly change from time to time.[583]

362. In sum, the Respondents conclude that the specific clauses of the AAs relied upon by the Claimants are not in the nature of stabilization clauses and most certainly do not and could not guarantee that the *Apertura Petrolera* would last forever. By the same token, these clauses do not curb the Government's abilities to enact measures that

---

[578] *See* § 335 *supra.*

[579] Petrozuata AA, **C-1**, Section 9.01(b).

[580] *See* § 337 *supra.*

[581] R-PHB, § 379.

[582] *See* § 337 *supra*.

[583] R-PHB, §§ 381-382

will affect the Projects or require the Respondents to disregard such measures. As such, in the Respondents' view, the Claimants have failed to discharge their burden to prove the existence of any express contractual obligations under the AAs and Venezuelan law.[584]

363. The Respondents further contend that, in any event, Venezuelan law does not sustain the conclusions that the Claimants seek to posit because all of the so-called obligations cited by the Claimants are at best "obligations of means" and not "obligations of result". The Respondents' expert, Prof. García Montoya, explains that "[o]bligations of result are those where the performance promised by the debtor is a specific, precise and concrete effect of the obligor's activity; *the performance is an end in itself, since the debtor agrees to obtain a specific result*."[585] On the other hand, due to the non-predictable nature of the desired result, obligations of means involve at best a promise to act with diligence and to behave prudently so as to *try* to achieve the desired result.[586]

364. The Respondents emphasize that the above distinction is significant from the point of view of Venezuelan law, inasmuch as Article 1271 of the VCC – which has been relied upon by the Claimants as giving rise to the Respondents' liability – only applies to an obligation of result and raises a presumption of breach. However, in case of obligations of means, there is no such presumption and the Claimants have the burden to establish the Respondents' breach.[587] In this respect, the Respondents underline that all the obligations cited by the Claimants are "best efforts" obligations and thus clearly obligations of means; that it is thus for the Claimants to prove that the Respondents have failed to discharge their obligations; and that the Claimants have failed to discharge this burden.

---

[584] R-PHB, § 384; *See also* Question 3, Tribunal's Questions.

[585] García Montoya ER II, **RER-5**, n. 106 (emphasis added).

[586] José Mélich-Orsini, GENERAL DOCTRINE OF CONTRACTS (5th edn., 2012), **RLA-132**, 487-489, n. 45 ("[T]here are certain cases in which the debtor when assuming his obligation, promises a 'result'… This occurs when the debtor promises to transport something from one place to another, to deliver something, to perform a work contract, etc…In contrast with this type of 'obligations of result', there are other obligations in which given the randomness of the desired result, the debtor promises only his diligence, a vigorous, attentive conduct to anticipate possible obstacles and to try to overcome them, but there the only thing that the debtor can really promise is this prudent and careful behavior. This is the case of the obligation of a doctor to cure the patient, or the lawyer to assist his client in a trial, etc"); Oscar E. Ochoa G., GENERAL THEORY OF OBLIGATIONS, CIVIL LAW III, VOL. I (2009), **RLA-135,** p. 141 ("This classification rests on the following: sometimes the debtor is bound to achieve a certain event; the obligation, then, is strictly precise, the debtor must achieve a result, a certain event. Sometimes, on the contrary, the debtor is only bound to act with diligence, to behave prudently to try to achieve a desired result. While the carrier is obliged to deliver the goods at the date and place agreed, the physician is only obliged to behave with care and diligence with the objective of obtaining the healing of the patient").

[587] García Montoya ER II, **RER-5**, § 49; Tr. (Day 7), 1956:16-1957:2 (García Montoya).

365. Regarding the Claimants' allegations on the context in which the AAs were executed, the Respondents' counterargument is that the Claimants fully understood at the time of making the investment that Government policies were subject to change and that the Government was free to enact measures that would affect the economics of the Projects. In fact, far from expecting a stable legal and political environment, the Claimants fully foresaw, understood and expected changes, especially in the event of exceptionally high oil prices. It is for this reason, the Respondents assert, that the Claimants insisted on negotiating very precise remedies – the indemnity against DAs – to mitigate these risks.[588] In the Respondents' view, this is the true context in which the AAs were negotiated and not under some false belief that the *Apertura Petrolera* would be resistant to any change.

366. As to the Claimants' reliance on good faith under Article 1160 of the VCC, the Respondents first submit that the contours of the duty to perform contracts in good faith under Venezuelan law clearly indicate that this duty is of very limited scope: it only allows the judge to sanction the disloyal use of a contractual prerogative and not to impair the very substance of the rights and obligations agreed upon by the parties.[589] Relying on legal scholarship, the Respondents explain that while an implied covenant of good faith and fair dealing is recognized in most contracts, "the principle of sanctity of contracts means that the parties cannot avoid their duty to perform the contract exactly as it was subscribed."[590] Put differently, any purported duty of good faith cannot be used like a "magic wand"[591] to conjure contractual obligations where none previously existed, in an attempt to re-write a contract.[592]

367. In light of the above, the Respondents submit that the Willful Breach Claims are without basis, because (i) the Claimants have not identified any relevant express contractual obligations that the Respondents have breached, much less performed in bad faith; and (ii) Respondents do not have an obligation to prevent the Government

[588] R-PHB, §§ 398-400.

[589] R-PHB, § 418; *M. Gérard X v. M. Bernard Z et al.*, Court of Cassation (Commercial Chamber) (France), Case No. 06-14.768, Judgment No. 966 dated 10 July 2007, **RLA-4**, p. 1.

[590] José Mélich-Orsini, General Doctrine of Contracts (5th edn., 2012), **RLA-132**, p. 430 (The principle of sanctity of contracts means that the parties cannot avoid their duty to perform the contract exactly as it was subscribed, both as a whole and in each of its clauses."); *La société Pompei, société civile immobilière v. la société HDC and M. X*, Court of Cassation (Third Civil Chamber) (France), Case No. 04-19923, Judgment dated 9 December 2009, **RLA-10**, p. 2; Court of Cassation (Third Civil Chamber) (France), Case No. 11-27904, Judgment dated 25 June 2013, **RLA-12**, p. 1.

[591] SoD, § 8; Tr. (First Session), 26:11 (Respondents' Submissions).

[592] *J.P. Morgan Chase Bank, N.A. v. IDW Group, LLC,* U.S.D.C. (S.D.N.Y.), 2009 U.S. Dist. LEXIS 9207, Memorandum Opinion and Order dated 9 February 2009, **RLA-13**, pp. 13, 24-25; *Granite Partners, L.P. v. Bear, Stearns & Co*., U.S.D.C. (S.D.N.Y.), 17 F.Supp.2d 275, Opinion and Order dated 25 August 1998, **RLA-14**, p. 306.

from rightfully exercising sovereign powers. Instead, turning the Claimants' argument against them, the Respondents argue that the Claimants' Willful Breach Claims are an exercise of bad faith as they circumvent the compensation provisions of the AAs which were specifically negotiated to provide relief against acts like the Expropriation.[593]

The Respondents' position on whether the Claimants' factual allegations demonstrate any breach of the "reasonable commercial efforts" obligation under the AAs

368. Turning to the Claimants' factual allegations, the Respondents dismiss these as "unfocused and inaccurate".[594]

369. The Respondents state that the Claimants' attempts to distinguish between so called "old" and "new" PDVSA and their allegation that it functioned as a political tool and government cash cow, disregards reality. From its very formation in 1975, PDVSA was "obligated to comply with and implement policy in matters of hydrocarbons that the National Executive establish[ed] through the Ministry of Energy and Mines";[595] it was governed by the provisions adopted by the National Executive;[596] and in carrying out its corporate functions, PDVSA was required to abide by the guidelines and policies established by the National Executive and the Ministry of Energy and Mines.[597]

370. The Respondents further submit that although the Claimants have emphasized the alleged "dual hat" worn by key PDVSA officials and the implications this has for the Respondents' purported role in the Claimants' dispossession, the fact remains that such allegations have no legal basis. The Respondents emphasize that (i) each of PDVSA and the PDVSA Subsidiaries are separate legal entities from the

[593] R-PHB, §§ 421-423.

[594] R-PHB, p. 316

[595] R-PHB, §§ 401, 407, 410; Decree No. 1.123, Creating the Company Petróleos de Venezuela and Enacting its Articles of Association and By-laws in Accordance with the Provisions Therein ("PDVSA Original Articles of Incorporation and By-Laws"), Extraordinary Official Gazette No. 1.770, published on 30 August 1975, **R-70,** Article 1.

[596] PDVSA Original Articles of Incorporation and By-laws, **R-70**, Clause 3.

[597] Decree No. 855, Revised Articles of Incorporation and By-laws of PDVSA, Official Gazette No. 33.321, published on 3 October 1985, **R-71**, Clause 2 (The carrying out of the corporate purpose shall be done by the company **under the guidelines and policies that the National Executive, through the Ministry of Energy and Mines, establishes or decides in accordance with the powers conferred upon it** by law. The activities that the State company carries out to that end shall be subject to the norms of control that said Ministry establishes in the exercise of the competence conferred to it by Article 7 of the Organic Law that Reserves to the State the Industry and Trade of Hydrocarbons. (emphasis added)).

Government; and (ii) there is no legal principle that allows the Claimants to attribute to the Respondents (State-entities), liability for the actions of the Government merely because one or more government officials also serve as an officer or director of the State entity.[598] They argue that in fact the presence of government officials on the board of national oil companies ("NOC") is far from unusual and there is no reason to single out PDVSA.[599] More importantly, merely because a State official also sits on the board of a NOC does not mean that his actions in State capacity are transformed into those of the NOC. To this the Respondents add that the "entire story of the dual roles of Mr. Ramirez and Dr. Mommer is nothing more than an irrelevant distraction",[600] because the course of events would have remained the same (i.e. the Overall Expropriation would have occurred and PDVSA would have to implement the decisions of the Government) even if other individuals – and completely independent individuals – had been at the helm of PDVSA.

371. Next, as regards the allegation that they played a key role in the campaign that destroyed the AAs through the development of the *Plan Siembra Petrolera,* the Respondents deem these statements "ridiculous".[601] The Respondents contend that the *Plan Siembra Petrolera* is not a "timeline expressly referring to the qualified measures and the migration as integrated steps" for the ultimate objective of destroying the AAs.[602] Much to the contrary, this Plan had nothing to do with the AAs and is an actual corporate plan to contribute to national socio-economic development, to leverage the Government's social policies, develop the Orinoco Oil Belt, and achieve other objectives that will contribute to the integrated development of oil production and the Venezuelan society.[603] Thus, while the *Plan* is undoubtedly aligned with national policy, it is otherwise entirely unrelated to the AAs and therefore not a subject matter in dispute in the current proceedings.

372. Having thus elaborated the Parties' positions on law and facts, the Tribunal commences its analysis of these submissions below.

iii. <u>The Tribunal's analysis</u>

[598] R-PHB, §§ 280-281.

[599] Tr. (Day 12), pp 3076:10-3077:7 (Respondents' Closing Statement), R-261 to R-268.

[600] R-PHB, §§ 284-286.

[601] R-PHB, § 412.

[602] Reply, § 76; R-PHB, § 412.

[603] R-PHB, § 413. *See also*, PDVSA's "Oil Sowing" Timeline, **C-373**, and Oil Sowing Plan 2005-2030, R-206.

3.1. *Do the express contractual provisions relied upon by the Claimants give rise to any obligations and what is the nature of such obligations (element (i) of the civil liability test)?*

373. In light of the Parties' submissions, the starting point of the Tribunal's analysis is to determine whether the express contractual provisions cited by the Claimants indeed give rise to any obligations, and if so, to determine the nature of such obligations.

Provisions under the Petrozuata AA

374. With respect to the Petrozuata AA, the Claimants rely on certain clauses of the Preamble and two provisions i.e. Section 2.04(a) and 9.01(b).

375. *Preambular Clauses*: In the Tribunal's view, these clauses are merely descriptive of the reasons why the Parties have entered into the Petrozuata AA and reflect their general commitment to develop the Project. The Tribunal agrees with the Respondents that the Claimants have provided insufficient explanation as to the content of the obligations that these clauses purportedly generate. Merely stringing together various tranches of the provisions and stating that the provisions "speak for themselves" is not enough.[604] At best, as the Claimants themselves acknowledge, the language of these Preambular clauses can inform the content of the obligations under Section 2.04(a) and 9.01(b), if any.[605] Accordingly the Preambular clauses of the Petrozuata AA are of no assistance to the Claimants' case insofar as they do not give rise to any independent contractual obligations.

376. Section 2.04(a): The Claimants emphasize that this provision obligates the Respondents to *"*act or to take all steps, as may be reasonably within its power and use reasonable commercial efforts to cause the [Petrozuata C.A.] to act in accordance with the provisions of the [Petrozuata AA].*"* The Tribunal is equally at a loss as to the relevance of this provision. The Claimants cannot pick and choose parts of the provision that suit their needs: the provision must be read as a whole. Doing so reveals that this provision addresses how each Party – in their capacity as shareholders and "co venturers" in Petrozuata C.A. – will vote to ensure that Petrozuata C.A. acts in accordance with the Petrozuata AA. The Claimants' witness, Mr. van Wageningen admitted as much at the Hearing. He described the abovementioned provision as "[His] Governance Provisions" through which he wanted to make sure that [PDVSA Petroleo] would "behave as a partner within the

[604] C-PHB, §§ 192-194.

[605] C-PHB, § 192(a).

joint venture and not just simply a representative of the State oil company.[606] The Respondents have rightly pointed out that the dispute in this case does not concern the manner in which Parties exercise their voting rights *vis-à-vis* Petrozuata C.A. Moreover, nothing in the Claimants' allegations suggests that the Respondents have caused Petrozuata C.A. to act contrary to the Petrozuata AA, much less that they would have used their voting rights in a contrary manner. In the circumstances, the Tribunal remains unconvinced that this provision creates the broad obligations that the Claimants attribute to it.

377. Section 9.01(b): The Claimants submit that pursuant to this provision, the Respondents are required to "vote, act, take all steps reasonably necessary and use all reasonable commercial efforts to carry out and assure the success of the Projects" and to refrain from "tak[ing] any action not contemplated [in the Petrozuata AA] that may adversely affect the performance by [Petrozuata C.A.] of its obligations under its Charter or under any Business Contract." These prescriptions are contained in the set of provisions that address the manner in which the business and operations of Petrozuata C.A. are to be undertaken.[607] Within that context, the Tribunal considers that these prescriptions do indeed obligate the Respondent to *use all reasonable commercial efforts* to carry out and assure the success of the Project, and to refrain from taking any actions that will adversely affect the performance of Petrozuata C.A.'s obligations.

378. Arguably, this provision generates mirror obligations, first, that the Respondents shall use "all reasonable commercial efforts" to ensure the success of the Project; and, second, that the Respondents should not act in a manner that will impede or place obstacles in the performance of the Project or prevent Petrozuata C.A. from carrying out its operations.[608] The Respondents' expert, Prof. García Montoya, conceded at the Hearing that a unilateral taking of the Projects by the Respondents (without authority of law) would be sufficient to breach this provision:

> **Q.** […] [T]his is the Petrozuata Association Agreement, and I want to direct your attention to 9.01(b). In this situation--in this situation would Respondents have breached their obligation to "take all steps reasonably necessary and use all

[606] Tr. (Day 3), 743:9 – 747:22 (Mr. van Wageningen).

[607] Petrozuata AA, **C-1**, Section IX. For the sake of good order, the Tribunal notes that here and elsewhere whenever reference is made to the Claimant/s and/or Respondent/s, it should be construed as reference to the relevant Claimant and/or Respondent in the given circumstances.

[608] C-PHB, § 192(a); Petrozuata AA, **C-1**, Section 9.01(b).

reasonable commercial efforts to carry out and assure the success of the Project"?

A. I think I would make reference to the other section that you've highlighted at the end here, and it says, "None of the Parties will take any action not contemplated herein that may adversely affect the performance by the Company of its obligations under its Charter or any Business Contract."

And it is more important impeding the performance of the Contract, in and of itself, so this would impair the operation of the company if this were done unilaterally and not backed by a law that would support the actions by Respondents.

Q. And would there be a breach of the duty of good faith in this situation?

A. Yes, assuming that the actions were carried out without a legal power established for PdVSA, and that there was no decree-law or another act similar to [the 2007 Nationalization Decree].[609]

379. The Tribunal notes the Respondents' contention that Section 9.01(b) requires the operations of Petrozuata C.A. to be conducted in accordance with all applicable laws, and that this would militate against any allegation that the qualified measures should not have been applied to Petrozuata C.A. However, the Claimants do not appear to challenge the measures themselves or that Petrozuata C.A. had to comply with them. Rather, they complain against the Respondents' purportedly active role in procuring the qualified measures.

Provisions under the Hamaca AA

380. With respect to the Hamaca AA, the Claimants rely on Articles 2.1(b), 10.4(a) and 10.5(a).

381. <u>Article 2.1(b):</u> According to the Claimants, Article 2.1(b) obligates the Respondents to conduct the Project activities "so as to make the best economic utilization of Project resources and assets to achieve the maximum benefit for the Project and the Parties in their capacity as participants in the Association." Article 2.1(b) is a part of the provisions that deal with the "Object of the Association".[610] It states in relevant part that "**the intention and plan of the Parties** [is] that all Project activities be conducted in a safe manner preserving the environment in accordance with applicable law and

[609] Tr. (Day 8), 2047:17-2048:17 (Prof. García Montoya).

[610] Hamaca AA, **C-3,** Article II.

so as to make the best economic utilization of Project resources and assets to achieve the maximum benefit for the Project and the Parties in their capacity as participants in the Association."[611] At best (for the Claimants' case), it can be said that this provision contains a statement of the Parties' intention or is descriptive of the motivations that shall inform the Parties' conduct. In the Tribunal's view, the Respondents are correct in asserting that the aforesaid statement "does not translate into the sweeping obligation Claimants posit as the basis for their [Willful Breach Claim]".[612] Put differently, this provision does not generate any specific "best efforts" obligations.

382. Articles 10.4(a) and 10.5(a): These provisions allegedly impose upon the Respondents an obligation to use their "best efforts to maintain at all times [the] application […] of the most favorable royalty [and tax] regime permitted by law" to the Parties in their capacity as participants in the AAs.[613] According to the Claimants the maintenance of the most favorable royalty and tax regime was to be achieved through "formal approaches to, and meetings with, Venezuelan governmental authorities".[614] On this basis, the Claimants have argued that the Respondents had an obligation to "resist changes to the fiscal regime for the Projects" and to "lobby" the Government against the qualified measures.

383. In the Tribunal's view, the Claimants' reading of the provision is not commensurate with its text. First, the Tribunal disagrees that the Respondents had an *unqualified* obligation to ensure the application of the most favorable fiscal regime to the Projects. As the Respondents rightly point out, the obligation to ensure that the "most favourable" royalty or tax regime applies to the Parties is not *in abstracto*. It is conditional upon "**taking into account** the existing legal regime and the economics of the Project, **as such factors may change from time to time**".[615] Accordingly, the Tribunal considers that any potential obligation would only arise in the event that the qualified measures were not imposed by the prevailing legal regime and did not suitably reflect the attendant economic realities of the Projects. The Claimants have not contested or been able to explain that the qualified measures were contrary to the conditions indicated above.[616] The Respondents, on the other hand, have submitted

611 Hamaca AA, **C-3**, Article 2.1(b) (emphasis added).

612 R-PHB, § 379.

613 Hamaca AA, **C-3,** Articles 10.4(a) and 10.5(a).

614 C-PHB, § 192(b).

615 Hamaca AA, **C-3**, Articles 10.4(a) and 10.5(a) (emphasis added).

616 C-PHB, §§ 250-251.

that the qualified measures were indeed applied keeping in mind Project economics, in particular the rise in oil prices since the investment was made.[617] In the circumstances, the Tribunal finds it difficult to accept that the mere alteration of the royalty and tax rates resulted in a non-favorable fiscal regime, which in turn gave rise to a best efforts obligation.

384. Second, the Tribunal is unconvinced that the Respondents had an obligation to "lobby" the Government, as proposed by the Claimants. Contrary to how the Claimants phrase it, Articles 10.4(a) and 10.5(a) merely state that "[a]ll formal approaches to, and meetings with, Venezuelan governmental authorities to establish such items shall be directed by [Corpoguanipa]".[618] The Tribunal reads this as a statement of who has the obligation to set up meetings with the Government, *in the event both Parties* decide to approach the Government. The language does not generate a unilateral duty on the part of the Respondents to "lobby" the Government against any and every fiscal measures that altered the previously applicable royalty and tax regime. Therefore, at best, the Respondents' obligation to "formally approach" the Government would only materialize if a decision was made to approach the Government.

385. The Tribunal also notes that, in the context of the Hamaca AA, the Claimants did not inform the Respondents that they considered the qualified measures or the effects thereof to also constitute a violation of the Respondents' contractual obligations. Nor for that matter did they ask the Respondents to formally approach the Government in connection with the qualified measures. This has been confirmed by the testimony of the Claimants' own witness at the Hearing:[619]

> PRESIDENT LÉVY: […] [D]id you ever personally make it known that you were dissatisfied with the conduct of your partner or your two partners? I'm talking about the Venezuelan partners. Did you ever tell them, "No, you're not conducting the way I expect you to do"?
>
> THE WITNESS: No, not personally.
>
> PRESIDENT LÉVY: Okay. Not personally.
>
> THE WITNESS: Yes.
>
> PRESIDENT LÉVY: Are you aware that someone did?

[617] R-PHB, § 381; Letter from Mr. Berry to Minister Ramírez, 14 January 2005, **R-14**, p.1.

[618] Hamaca AA, **C-3**, Articles 10.4(a) and 10.5(a) last sentence.

[619] Tr. (Day 2), 505:1-511:17 (Mr. Heinrich).

THE WITNESS: **I'm not aware that there were direct communications that we were dissatisfied with the partner**, but our partners were very much aware of our dissatisfaction with all of the activities and measures that were happening […] With each measure. We it very made clear, our dissatisfaction.

[…]

PRESIDENT LÉVY: Very well. Incidentally, you were dissatisfied--again, **I'm not talking about the Government. I'm talking strictly about your partners and, in fact, the Parties to this arbitration now**. What was the subject of dissatisfaction, your subject of dissatisfaction? **You said they were very much aware that you were dissatisfied. I'm not going to ask you to give all your subjects of dissatisfaction, but what was--what did they know that you were dissatisfied with?** Measure by measure. 2004, you had the 1 percent royalty tax which went up. Then you had the Extraction Tax. Then you had the--I never remember, it's not Income Tax, it's not corporate tax--sorry?--Income Tax. So, thank you. Income Tax, et cetera. **So, you were always dissatisfied, and I can understand why. But there was clarity with your partners why you were dissatisfied with them?** I'm not talking about the Measure. I'm not talking about the Government. **I ask you if your partners were aware that you were dissatisfied with them**, not with the Government.

THE WITNESS: Yeah. It--well, primarily, it's around the cash flow impact. […]

PRESIDENT LÉVY: […] Of course, the cash flow would be affected […] But do you say that it's because of them that the cash flow would be affected, or because of the Government measures?

THE WITNESS: Well, as we got further into the measures, it was--**we didn't really differentiate them versus the Government.**

PRESIDENT LÉVY: Why?

THE WITNESS: Because the--**we expected they were involved with the policies that were coming out in the public statements**. The oversight of the entity had changed. The new PdVSA was a different entity than the entity we had negotiated our Agreements with, and they acted that way […] So, there was--**we fully assumed** that they were working in the process, and none of this was going to be a surprise.[620]

386. From the above testimony, the Tribunal understands that the Respondents may indeed have been aware that the Claimants had objections to the qualified measures. However, apart from this general awareness, it appears that the Claimants at no point expressly indicated to the Respondents that they had acted in breach of their contractual obligations, especially not with specific reference to what contractual obligations were breached and by which company. As already noted above,[621] the Claimants' objections pertained to the Government's obligations under international law and the Respondents' alleged breaches under the AAs find no mention therein. Moreover, the Claimants evidently never approached the Respondents to undertake their alleged contractual obligation to set up formal meetings with the Government.

[620] Tr. (Day 3), 699:15-702:13 (Mr Heinrich).

[621] *Supra*, §§ 214-216.

Given these circumstances, it is inapposite for the Claimants to contend that an obligation to "lobby" the Government ever materialized, much less that it has been breached.

387. Be that as it may, to the Tribunal's mind, there is another considerable flaw in the Claimants' arguments regarding these provisions. In response to the Tribunal's questions as to why they did not inform the Respondents of their grievances, the Claimants' witness had the following to say:

> PRESIDENT LÉVY: […] What practically could [the Respondents] have done to support you after 2004? Practical terms. What could they have done?
>
> THE WITNESS: They could have worked with us to help convince the Ministry of the importance of a stable fiscal environment and the benefits that brings to investment.
>
> PRESIDENT LÉVY: But **do I understand correctly** from what you told me earlier **that you never practically requested anyone--not you personally this time, I'm talking about your team--you never requested any practical measure? You never told them, why don't you go meet Mr. X at the Ministry and discuss that point?** Did you?
>
> THE WITNESS: **No.**
>
> PRESIDENT LÉVY: No. Okay.
>
> **THE WITNESS: Because,** again, the environment felt so different then that **we didn't expect any results would come.**[622]

388. When the Claimants themselves did not expect any results from "lobbying" the Government, their entire allegation that this obligation has been breached rings very hollow indeed.[623]

---

[622] Tr. (Day 3), 702:14-703:7 (Mr Heinrich).

[623] For completeness, the Tribunal notes that the Respondents' witness, Dr. Mommer, also testified that lobbying would have been futile as the decision to impose these measures has been made. *See* Tr. (Day 6), 1550:3-1552:18 (Dr. Mommer) (**Q.** Now, let's imagine a situation here. Let's imagine if, as Director of PdVSA, Mr. Ramírez is approached by ConocoPhillips, and he and you and PdVSA is asked to lobby to protect this Project from the nationalization. What do you think would have happened? **A.** Again, it is a hypothetical question, ConocoPhillips would not have talked to President of PdV to talk about that. It would have talked to the Minister, and they may have asked, well, if there is a definitive word, last word, well, it came from President Chávez. Hard to argue it was not a definitive word. **Q.** So, what is the reaction you think ConocoPhillips would have got if they had asked PdVSA, led by Mr. Ramírez, to lobby on its behalf at this time? **A. It seems to me absurd to even hypothetically suggest that they would talk to the President of PdV regarding forced migration. They had to talk to the Government. It was a Measure announced by the Government, by the highest level of Government. So, you had to talk to the highest level of Government and to see what you can do about it. PRESIDENT LÉVY:** It's also hypothetical, but imagine for a second that it would have been important for Conoco to discuss that with PdVSA; that is, the possibility of lobbying. Who would have been available at PdVSA to discuss that? You tell me Mr. Ramírez would have been the Minister, so it's absurd to think that you can approach him as PdVSA representative. Who would have been available for Conoco to discuss with at PdVSA? **THE WITNESS:** Its Parties, the Association. It was the Association that would migrate, so it would affect CVP--the Subsidiary of PdV. They're partners in the joint venture. That was the logical contact. **PRESIDENT LÉVY:** So, it would have had to discuss with CVP. **THE WITNESS:** Yes, with Eulogio Del Pino, if you want, who was the head of CVP. That was it. They had Parties. PdV was part of the Association that forced to migrate. PdV was forced to

389. Finally, regarding the relevance of the duty of good faith, both Parties appear to agree that the duty of good faith under Article 1160 of the VCC does not generate new contractual obligations, but only determines the contours of existing contractual obligations.[624] Thus, the Tribunal is of the view that the Claimants' invocation of the duty of good faith would be relevant to the extent that the Respondents have performed their contractual obligations in bad faith, or that their actions suggest an improper use of their contractual prerogative – to use the Claimants' words "as a gauge of Respondents' performance of their express contractual obligations".[625]

390. As the Tribunal has concluded that only Section 9.01(b) of the Petrozuata AA gives rise to a "reasonable commercial efforts" obligation, the duty of good faith may inform the scope of this provision only.

391. Finally, the Tribunal must also assess the nature of the obligations flowing from Section 9.01(b) and the implications thereof, in view of the Respondents' argument that this provision only generates an "obligation of means".

392. The Respondents have invoked the writings of various authors to explain the scope of an "obligation of means" as understood under Venezuelan law. According to their writings – with which the Claimants agree in principle – in case of an obligation of means, "given the randomness of the desired result, the debtor promises only his diligence, a vigorous, attentive conduct to anticipate possible obstacles and to try to overcome them, but there the only thing that the debtor can really promise is this prudent and careful behaviour."[626]

393. The Respondents have also referred to French legal authorities on this issue, to show the similarity in understanding of this concept in the two jurisdictions. As the concept

---

migrate, not only Conoco, not only ARCO, not only Chevron. **PRESIDENT LÉVY:** And do you know who the head of CVP was at the time? **THE WITNESS:** Yes. Eulogio Del Pino. **PRESIDENT LÉVY:** Mr. Del Pino. And if Mr. Del Pino had requested a meeting with the Ministry, whether you, Mr. Ramírez, whoever would be in charge, what would have happened? You said it's absurd, so I would like to make sure that I understand exactly your position. **THE WITNESS:** For sure, they would not talk to me. At that level and given this situation, they would have to talk to the Minister at the very least. […] The Minister upwards. Not to me. I was out of this decision, and so they would have to talk to the Minister and to make the argument, **but the decision was taken. PRESIDENT LÉVY:** Yes. And putting two--exactly. And putting two and two together, **even talking with the Ministry would not have had much logic, given what you said earlier. You don't even know what Minister Ramírez had as a personal view on the nationalization or forced migration or whatever. THE WITNESS: He had personal views, but he had also no doubt that he would go with the decision of the Government. That was his role as a Minister**. (emphasis added)).

[624] R-PHB, § 357; SoD, §§ 236-249; Reply, § 75; C-PHB, § 201.

[625] C-PHB, § 210.

[626] José Mélich-Orsini, GENERAL DOCTRINE OF CONTRACTS (5th edn., 2012), **RLA-132**, 487-489, n. 45.

is indeed similarly understood, the Tribunal considers it sufficient to note the position under French law without opining on whether or not recourse can be had thereto:

> [t]he obligation is of means when the debtor has committed to doing what is possible to achieve a result contemplated by the parties, but of which the debtor cannot or does not want to guarantee the achievement. The obligation requires him to adopt a reasonable and diligent behaviour, *the non-performance* **will then be characterized by a mistake in conduct, namely by a deviation from what the creditor was entitled to expect from a reasonable and diligent debtor placed in the same circumstances**.[627]

394. As to the implications of an obligation being one of "means", the Respondents contend that "merely showing that the goal was not obtained does not prove the existence of non-performance".[628] The debtor of an obligation of means will only be considered responsible for breach if the creditor can show that "the activity or the conduct performed by the debtor is less than what is due; [that] it is defective. In other words [the creditor] must show the fault of the debtor".[629]

395. The Claimants do not dispute the classification of the aforementioned contractual provision as an obligation of means. Nor do they contest that the burden is upon them to prove that the Respondents' actions violate the expectation of diligent conduct.[630] In the circumstances, it is for the Claimants to show whether the Respondents' actions and omissions (that have been elaborated at paragraphs 342 – 354 above) constitute a failure to exercise the requisite level of due diligence in discharging their obligations under this provision of the Petrozuata AA.

3.2. Do the Respondents' actions breach the "reasonable commercial efforts" obligation (element (ii) of the civil liability test)?

396. Having concluded that the Respondents are contractually obligated to exercise reasonable commercial efforts pursuant to Section 9.01(b) of the Petrozuata AA, the next question for the Tribunal to determine is whether the specific actions and omissions complained of at paragraphs 342 – 354 above, constitute breaches of such obligation.

---

[627] Jean-Christophe Saint-Pau, *Right to Reparation: Conditions of Contractual Liability*, 11-10 JURISCLASSEUR CIVIL CODE, 16 May 2016, **RLA-145**, pp. 40-42 (emphasis added by Tribunal).

[628] José Mélich-Orsini, GENERAL DOCTRINE OF CONTRACTS (5th edn., 2012), **RLA-132**, 487-489, n. 45.

[629] Eloy Maduro Luyando and Emilio Pittier Sucre, COURSE ON OBLIGATIONS: CIVIL LAW III, VOL. I (2009), **RLA-137**, p. 188.

[630] C-PHB, §§ 339-340; Tr. (Day 7), 1895:16-1896:6 (Prof. Mata Borjas).

397. By and large the conduct complained of relates to the purported transformation of the "old PDVSA" into the "new PDVSA" and the alleged role played by key PDVSA officials by virtue of their dual positions in the Government and PDVSA. According to the Claimants these "dual hats" enabled PDVSA to be transformed into a mouthpiece of the Chávez Administration and implement its policies in complete disregard of their obligations as contractual partners.

398. To begin with, it is difficult to comprehend the underlying rationale of the Claimants' "'old PDVSA' vs. 'new PDVSA'" argument. Even assuming that the "old PDVSA" was purportedly independent from the Government, it was not a State within a State, left entirely to its own devices. Quite to the contrary, PDVSA was and at all times remained indisputably a State entity required to act in accordance with its governing documents. It is also indisputable that pursuant to the provisions of its Articles of Association and By-laws, PDVSA is required to implement the policies as determined by the Government.[631] Some of the relevant provisions are set out below:

> Article 1 – There shall be created a *state company*, under the form of a Sociedad Anónima, which **shall comply with and implement policy in matters of hydrocarbons that the National Executive establishes through the Ministry of Energy and Mines** in the activities that are entrusted to it.[632]
>
> […]
>
> Title 1
>
> General Provisions
>
> Clause 2: The carrying out of the corporate purpose shall be done by the company **under the guidelines and policies that the National Executive, through the Ministry of Energy and Mines, establishes or decides** in accordance with the powers conferred upon it by law.
>
> The activities that the State company carries out to that end **shall be subject to the norms of control that said Ministry establishes** in the exercise of the competence conferred to it by Article 7 of the Organic Law that Reserves to the State the Industry and Trade of Hydrocarbons.[633] (emphasis added)

399. In these circumstances, regardless of whether it was "old" or "new", PDVSA was bound to comply with and implement the policies of the prevailing Government and it was not at liberty to pursue its own agenda in that regard. As discussed in more detail

[631] *See* Allan R. Brewer-Carías, *The Nature of Petróleos de Venezuela, S.A., as an Instrument of the State in the Oil Industry*, 23 Revista de Derecho Publico, July-September 1985, García Montoya ER I, **RER-1 App. GM-54**, pp 83-85. Claimants, perhaps inadvertently, have accepted that this is the case while arguing that the acts of the State are not extraneous to the Respondent. *See infra,* §§ 462, 473 – 474*.*

[632] PDVSA Original Articles of Incorporation and By-laws, **R-70,** Article 1 (emphasis added).

[633] Decree No. 855, Revised Articles of Incorporation and By-laws of PDVSA, Official Gazette No. 33.321, published on 3 October 1985, **R-71,** Clause 2 (emphasis added).

below[634] the Claimants would have difficulty contradicting this trite fact and acknowledge it in the process of trying to establish that PDVSA and the Government were organically linked. It is therefore contradictory for the Claimants to allege, on the one hand, that PDVSA's organic link to the Government is demonstrated by their obligation to comply with Government guidelines and policies, and, on the other hand, contend that this allegedly "organically linked" PDVSA should have acted contrary to these very policies in discharging its contractual obligations. It is not sufficient in this regard to advance that PDVSA itself prompted or prepared such guidelines and policies and this reinforces the point. Thus, in the Tribunal's view, the distinction between the "old" and the "new" PDVSA does not advance the Claimants' case in any manner.

400. The next set of allegations pertain to the consequences that flow from the alleged "dual hat[s]" worn by two PDVSA officials, namely, Mr. Ramírez, (who was simultaneously the Minister of Energy and the President of PDVSA) and Dr. Mommer (who was simultaneously the Vice Minister of Hydrocarbons and a non-executive Director on the Board of PDVSA). The Tribunal notes that although allegations have been made against four officials (i.e. including Mr. Rodriguez and Mr. Del Pino), the Claimants have concentrated largely on Mr. Ramírez and Dr. Mommer to support their "dual hat" theory. Hence, the Tribunal's analysis will concentrate on the allegations about these two individuals.

401. The core of the Claimants' allegations appear to be that (i) Mr. Ramírez and Dr. Mommer were responsible for formulating the various qualified measures[635] as well as conceptualizing the Expropriation; (ii) it is impossible that these individuals would have been able to maintain a difference in their own minds as to what capacity they were acting in at the relevant point of time; and therefore (iii) it should be presumed that all actions performed by these individuals in their capacity as Ministers are equally the actions of PDVSA and *vice-versa*.

402. Keeping in mind the burden and standard of proof that the Claimants have to discharge, the Claimants must be able to show that while undertaking the allegedly breaching conduct, these individuals represented themselves as PDVSA. They have to show that the course of events leading up to the Expropriation would not have occurred without the contributions of these officials acting as PDVSA. Alternatively,

[634] *Infra,* §§ 470-473.

[635] i.e., the Royalty Measure in 2004 which abrogated the Royalty Reduction Agreement; the imposition of the Extraction Tax on the Projects; and the Income Tax Increase in 2006.

the Claimants need to show that when Mr. Ramirez and Dr. Mommer were discharging their functions as PDVSA President and Director respectively, they were actually acting as the "State", that they were disregarding PDVSA's interests altogether, and that their conduct surpassed their obligation to act in accordance with State policy pursuant to the PDVSA By-laws.

403. The single element on which the Claimants' entire argument appears to be constructed is the allegation that it is impossible to distinguish who these individuals were acting for at a given point of time; that merely the wearing of "dual hats" constituted a breach as everything they did on behalf of the Ministry would equally be an act of PDVSA. The Tribunal is not persuaded by this argument.

404. With respect to Mr. Ramírez, the fact that he was simultaneously PDVSA President and the Minister of Energy does not automatically imply that all actions taken in his capacity as the Minister were equally those of PDVSA, even if they did relate to the oil industry or even to PDVSA itself. The Tribunal notes that the Claimants have relied upon the fact that Mr. Ramírez was involved in the formulation of the oil policy for the Chávez Administration, i.e. the policy of "Full Oil Sovereignty". But that was indeed part of his functions as the Minister. Also, regardless of any actual inputs that he may have made in his capacity as PDVSA President, it is ultimately for the Government to formulate and enact the laws that reflect this purported policy of "Full Oil Sovereignty".[636] The Tribunal notes that the Claimants cite numerous public speeches and interviews given by Mr. Ramírez denouncing the *Apertura Petrolera* and the AAs and rely on the same as indicative of Mr. Ramírez active role in bringing about the destruction of the AAs.[637] However, apart from the fact that Mr. Ramírez held dual positions while giving these speeches, there is nothing in the record to sufficiently indicate that in each of these instances Mr Ramírez was not only expressing his views as the Minister but also acting in his capacity as PDVSA President. Absent such additional substantiation, the Tribunal cannot accept the Claimants' contention that Mr. Ramírez was equally representing PDVSA.

---

[636] R-PHB, § 298.

[637] C-PHB, §§ 258-275; Report submitted by Rafael Ramírez, Minister of Energy and Oil to the Special Commission to Investigate Irregularities in the Drafting, Conclusion and Implementation of the Operating Agreements, Strategic Partnerships and Internationalization Business of the National Assembly of Venezuela on 25 May 2005, Mares ER, **CER-1 CM-31**; Ramírez May 2005 Speech, **C-132**; President Chávez's Presentation on PDVSA's "Strategic Planning", 18 August 2005, **C-264**; Rafael Ramírez, "*We are going to renationalize oil production*", PDVSA Website, 19 August 2005, **C-265**; Rafael Ramírez, "*Full Oil Sovereignty: A popular, national and revolutionary policy*", PDVSA Speech Series #2, 20 October 2005, **C-269**; Transcript of Speech by Rafael Ramírez, *With Mixed Companies, Venezuela Advances Toward Full Petroleum Sovereignty,* 23 March 2006, **C-130**; Transcript of Speech of Rafael Ramírez before PDVSA Employees, 31 October 2006, **C-150**.

405. Similarly, although the Claimants have challenged the actions of Dr. Mommer, the record shows that at all times he was acting in his capacity as the Vice Minister of Hydrocarbons and that he never interacted with the Claimants as a representative of PDVSA.[638] This is also the case with Mr. Ramírez. Moreover, the record also shows that the Claimants understood this fact, because all communications to Mr. Ramírez and Dr. Mommer have been addressed to them in their governmental capacity.[639] As the Respondents have repeated time and again:

> [t]hroughout the so-called dismantling of the Apertura Petrolera, which Claimants argue commenced with the 2004 Royalty Measure, up to the filing of the Requests for Arbitration in this case in 2014, i.e., for an entire decade, ConocoPhillips recognized that the actions that caused Claimants' losses were all actions of the Government, not these Respondents.[640]

406. Some of the correspondence between the Claimants and Mr. Ramírez or Dr. Mommer as the case may be, is set out below:

i. On 22 November 2004, the Claimants addressed a letter to **Mr. Ramírez in his capacity as the Minister of Energy,** objecting to the Royalty Measure;[641]

ii. On 14 January 2005, the Claimants addressed a letter to **Mr. Ramírez in his capacity as the Minister of Energy** and agreed to pay the Royalty Measure;[642]

iii. On 26 April 2005, Dr. Mommer **in his capacity as the Vice Minister of Hydrocarbons** addressed a letter to the Claimants regarding the potential problems with the Petrozuata AA and Project;[643]

iv. On 18 October 2006, the Claimants addressed a letter to Dr. Mommer **in his capacity as the Vice Minister of Hydrocarbons** in respect of the restructuring of the Hamaca Project;[644]

---

[638] Mommer WS I, **RWS-1**, §§ 4, 46, 47; Letter from Vice Minister Mommer to Mr. Berry of Claimants, 26 April 2005, **RWS-1 Appendix 26**; ConocoPhillips Presentation, *Petrozuata: The Future and Key Issues*, August 2005**,** **RWS-1 Appendix 27**; Letter from A. Roy Lyons, ConocoPhillips to Vice Minister Mommer, 2 May 2006, **RWS-1 Appendix 30**; Tr. (Day 2), 512:7-513:1 (Mr Heinrich) ("**Q.** Did you ever hear anybody at ConocoPhillips addressing Dr. Mommer as external Board Member of PdVSA as opposed to Vice Minister? **A.** Well, I'm not sure addressing, but we were all aware of his dual roles. **Q.** I want to know whether you ever addressed him in the PdVSA role. **A.** Well, I wouldn't have. **[…]** **Q.** Have you seen any of the dozens of communications between ConocoPhillips and Dr. Mommer during this period? **A.** I've seen several. **Q.** Do any of them address him as anything other than Vice Minister? **A.** I don't believe so. I think they're addressed to the title of that office").

[639] *See* R-PHB, fn 577.

[640] R-PHB, § 295

[641] Letter from Gregory Goff, ConocoPhillips to Minister Ramírez, 22 November 2004, **R-109**, p.1.

[642] Letter from Mr. Berry, ConocoPhillips to Minister Ramírez, 14 January 2005, **R-14**, p.1.

[643] Mommer WS I, **RWS-1 Appendix-26**, p.1.

v. On 29 November 2006, the Claimants addressed a letter to Dr. Mommer **in his capacity as the Vice Minister of Hydrocarbons** objecting to the imposition of the qualified measures by the Government;[645]

vi. On 31 January 2007, the Claimants addressed a letter to **Mr. Ramírez (in his capacity of Minister of Energy), President Maduro (in his then capacity of Minister of Foreign Affairs), and Ms. Gladis Gutiérrez (in her capacity of Attorney General) and copying Dr. Mommer (in his capacity of Vice Minister of Hydrocarbons)**, stating that Venezuela's actions were contrary to the Venezuela-Netherlands BIT as well as the Foreign Investment Law, and therefore providing notice of the existence of a dispute under these instruments;[646]

vii. On 12 April 2007 the Claimants addressed a letter to both **Mr. Ramírez (in his capacity of Minister of Energy) and Dr. Mommer (in his capacity of Vice Minister of Hydrocarbons)** in connection with the migration of the Projects into mixed enterprises.[647]

viii. Numerous emails were addressed by Dr. Mommer to the Claimants, all in his capacity as the Vice Minister of Hydrocarbons.[648]

407. In any event, at the time Dr. Mommer presumably conceptualized the qualified public measures, he was a Managing Director of an entirely different PDVSA subsidiary[649] which was not even a party to the AAs. Insofar as his role as a member of the Board of Directors of PDVSA is concerned, this in and of itself generates no consequences especially in light of the fact that Dr. Mommer was an external director of PDVSA and had no executive functions or authority to represent PDVSA before third parties.[650] Therefore, the Claimants' attempt to bring him within the purview of the reasonable commercial efforts obligation under the Petrozuata AA is far-fetched and does not withstand scrutiny.

[644] Letter from ConocoPhillips to Dr. Mommer, 18 October 2006, **C-148**, p.1.

[645] Letter from ConocoPhillips to Dr. Mommer, 29 November 2006, **C-151**, p.1.

[646] *Supra*, §§ 214-216.

[647] Letter from ConocoPhillips to Minister Ramírez, Vice Minister Dr. Mommer, and PDVSA President Mr. Del Pino (re: Petrozuata Project), 12 April 2007, **C-174**; Letter from ConocoPhillips to Minister Ramírez, Vice Minister Dr. Mommer, and PDVSA President Mr. Del Pino (re: Hamaca Project), 12 April 2007, **C-175**.

[648] Mommer WS II, **RWS-3 Appendix 34.**

[649] Tr. (Day 5), 1401:11-1402:7, 1426:3-7 (Dr. Mommer).

[650] Mommer WS II, **RWS-3**, §§ 3-4.

408. Additionally, the Tribunal accords weight to the Respondents' contention that the appointments of Mr. Ramírez and Dr. Mommer to PDVSA were entirely incidental to their role in the Ministry. According to this argument, the Tribunal merely needs to ask itself whether anything that transpired from 2003 (the "transformation of the PDVSA") to the Expropriation in 2007 would have changed if PDVSA itself had remained neutral and independent from the Chávez Administration.[651] For the Tribunal, the answer is evidently "no". Even if the Respondents had remained purportedly neutral and independent of the Government and even if Mr. Ramírez and Dr. Mommer had only held positions in the Ministry, they could have nonetheless devised and executed the Government's plan to nationalize the Projects. Their simultaneous role as PDVSA officials did not give them any special powers to assist the Government and participate in the Overall Expropriation. The same would have been put into motion in 2007 in any event. Similarly, regardless of its neutrality and independence, PDVSA, being required by its constitutive documents to adhere to the Government's policies and the law, would have no other recourse but to comply with each of the qualified measures. When viewed in this manner, the Claimants' allegations regarding the alleged implications of the "dual hats" worn by these officials are quite a leap in logic.

409. The Tribunal also finds it rather curious that despite their vehement objections to Mr. Ramírez and Dr. Mommer's "dual hatting" today, the Claimants do not appear to have contemporaneously challenged such appointments or the actions of the Government that made them possible. The Tribunal recollects that initially, the Articles of Association of PDVSA did not permit the Minister of Energy to simultaneously hold the post of PDVSA President.[652] This was presumably done to ensure a separation between PDVSA and the Government. However, in order to allow Mr. Ramírez to simultaneously act as PDVSA President, in 2004, the Government (and specifically President Chávez) amended the By-laws of PDVSA through a legislative act such that the Minister of Energy and Mines became eligible to be appointed as PDVSA President from that time onwards.[653] On the same day, by another legislative act, the Government also proceeded to appoint Mr. Ramírez as PDVSA's President.[654] Arguably, if the Claimants perceived these actions as "dual hatting" and contrary to their interests, they could have objected to the same and/or challenged the laws at

---

[651] R-PHB, §§ 284-285.

[652] PDVSA Original Articles of Incorporation and By-laws, **R-70.**

[653] Partial Amendment of Decree No. 2184 of 10 December 2002, Containing the By-laws of Petróleos de Venezuela, S.A., Official Gazette No. 38,081, published on 7 December 2004, **C-112**, Article 2.

[654] Reprint of Decree No. 3264 Appointing Rafael Ramírez as President of PDVSA, issued on 22 November 2004, Official Gazette No. 38,081, published on 7 December 2004, **C-113**.

the relevant time. There is nothing on record to show that the Claimants in fact did so. Thus, having accepted this state of affairs, it is unconvincing for the Claimants to now cry foul. By the same token, it is also arguable that the "dual hatting" was engendered and maintained by the Government, for it was the Government's legislative acts that bestowed a dual hat on Mr. Ramírez and Dr. Mommer. It has not been argued that PDVSA was responsible for electing Mr. Ramírez as the President. Thus, given the Government's role, it is questionable to what extent PDVSA can be held "responsible" for breaching contractual obligations in the instant case.

410. In any event, to the extent that the "dual hats" worn by these two officials may implicate the Tribunal's assessment of the alleged breach of the reasonable commercial efforts obligation, the Tribunal considers that the Respondents would nevertheless be exonerated of liability due to the absence of a legally sufficient causal link between their alleged breaches and the loss caused to the Claimants.[655]

411. The Claimants have further alleged that PDVSA, and Mr. Ramírez personally, procured the 2007 Nationalization Decree pursuant to which they confiscated the Projects. According to the Claimants, the Respondents' "common enterprise" with the Government in getting the 2007 Nationalization Decree enacted is evidenced by (i) the speeches of key PDVSA officials denouncing the AAs and the Apertura Petrolera; (ii) Mr. Ramírez's role in drafting the 2007 Nationalization Decree, as he was the concerned Minister in the Government; and (iii) the Respondents' role and contribution in developing the *Plan Siembra Petrolera* or the "Full Oil Sovereignty" Plan. In the Tribunal's view, the Claimants' position once again suffers from the same wrong assumption that everything done by one entity, i.e. the Government, is equally attributable to PDVSA. Pertinently, the Tribunal observes that this appears to be an assumption that the Claimants have made very early on.

412. As elaborated above, at the Hearing, Claimants' witness Mr Heinrich stated that "[they] didn't really differentiate [PDVSA] versus the Government [and…] expected [that PDVSA] were involved with the policies that were coming out in the public statements. […] [The Claimants] *fully assumed* that [PDVSA] were working in the process, and none of [the qualified measures] was going to be a surprise."[656] It appears to the Tribunal that while the Claimants have built most of their case around this assumption, they have failed to show that the numerous speeches they rely on

[655] *Infra*, §§ 455-490.

[656] *Supra*, § 385 (emphasis added).

were in fact given by the Respondents, and not by Government officials or even both at the same time.

413. The same can be said of Mr Ramírez's role in procuring the 2007 Nationalization Decree. The Parties agree that the power to enact laws derives from the Venezuelan Constitution.[657] Article 236 thereof delineates the powers and obligations of the President of Venezuela which includes "the power to enact, with the previous authorization of an enabling law, decrees with the force of law".[658] This power is to be exercised by the President "in the Council of Ministers" and the "acts of the President of [Venezuela] […] shall be countersigned to be valid by the […] respective Minister or Ministers."[659]

414. In light of this provision, the Respondents have argued that the entire policy of nationalization and the steps that were taken to dismantle the *Apertura*, were President Chávez's "brainchild" and are thus attributable to him alone. The Respondents seem to suggest that Mr. Ramírez, despite being the Minister of Energy and Petroleum, had nothing to do with formulating hydrocarbon policy or drafting the 2007 Nationalization Decree. The Claimants, of course, argue at the other extreme that Mr. Ramírez's contribution to the policy of nationalization was made in his capacity as PDVSA President. The truth, in the Tribunal's view, lies somewhere in between the Parties' diametrically opposed positions.

415. The Tribunal agrees with the Claimants to the extent that as a matter of Venezuelan law, the concerned Minister would ordinarily be responsible for preparing drafts of legislations and proposing them before the President and the Council of Ministers.[660] However, in this instance, it is also true that the Claimants have not proved, either through documentary or other evidence, that Mr. Ramírez in fact drafted the 2007 Nationalization Decree and secured its enactment.[661] As the Respondents point out, the Claimants' entire argument appears to be based once again on the presumption that this would have been the normal course of events under Venezuelan law. There is some force in the Respondents' argument that the Claimants have not produced

[657] C-PHB, § 281; Tr. (Day 8), 2078:10-12, 15-20 (Prof. García Montoya),

[658] 1999 Constitution, **CLA-36**, Article 236(8) ("The powers and obligations of the President of the Republic are: […] (8) To enact, with previous authorization of an enabling law, decrees with force of law")

[659] 1999 Constitution, **CLA-36**, Article 236 ("The President of the Republic will exercise in the Council of Ministers the powers established in paragraph […], 8, […] as well as those determined by law to be exercised in the same manner. The acts of the President of the Republic, except those established in paragraph 3 and 5, shall be countersigned to be valid by the Executive Vice-president and the respective Minister or Ministers").

[660] Tr. (Day 6), 1611:14-1612:13 (Prof. Brewer-Carías).

[661] C-PHB, §§ 283-284; R-PHB, § 450.

any witnesses who would have had personal knowledge of Mr. Ramírez's involvement in drafting the 2007 Nationalization Decree or any documents that attest to the same.[662] Consequently, the Tribunal is unable to accept the Claimants' conclusion that Mr. Ramírez was acting pursuant to his powers as PDVSA President at the relevant time.[663]

416. As regards the *Plan Siembra Petrolera*, the Claimants' allegations appear to hinge on a "timeline" or presentation that is available on the PDVSA's website[664] and on President Chávez's declaration that "[t]his Plan came out of PDVSA, […] was developed in PDVSA".[665] According to the Tribunal, aside from possibly being political posturing, the latter does not prove anything. In particular, it certainly does not prove that the *Plan Siembra Petrolera* was conceived by PDVSA to destroy the AA and retain all the profits. As for the presentation on the PDVSA website, it merely records events across a timeline. The Tribunal cannot agree that this presentation is representative of a detailed plan of action to destroy the AAs and take control over the Orinoco Oil Belt, much less that it would have been formulated by Mr. Ramírez or Dr. Mommer acting as PDVSA.

Conclusion

417. In sum, the Tribunal concludes that (i) only Section 9.01(b) of the Petrozuata AA gives rise to a "reasonable commercial efforts" obligation; (ii) none of the provisions of the Hamaca AA invoked by the Claimants give rise to a "best efforts" obligation; (iii) the obligation under the Petrozuata AA is an obligation of means and it is therefore the Claimants' burden to prove that the said obligation has been breached; and (iv) the Claimants have failed to discharge this burden and to prove that the Respondents' actions constitute a breach of Section 9.01(b) of the Petrozuata AA.

---

[662] R-PHB, § 451.

[663] R-PHB, §§ 294, 307.

[664] PDVSA's "Oil Sowing" Timeline, **C-373**, p. 1.

[665] President Chávez's Presentation on PDVSA's "Strategic Planning", 18 August 2005, **C-264**, p.1; C-PHB, §§ 262, 265.

d. ***Second Willful Breach Claim: the existence and breach, if any, of the Respondents' duty to perform the AAs (i.e., elements (i) and (ii) of the civil liability test)***

418. The Claimants contend that the Respondents' failure to perform their contractual obligations under the AAs and the Guarantees "during the course of 2007"[666] is a clear breach of their fundamental duty of performance pursuant to Articles 1264 and 1271 of the VCC. At the outset, the Tribunal deems it important to note that, whilst the Claimants have placed great emphasis on this argument – and it would now appear to be perhaps even the key prong of the two Willful Breach Claims – it was articulated for the first time in the Claimants' PHB on the basis of their experts' testimony at the Hearing.[667]

419. At the Hearing, in response to the Tribunal's questions, the Claimants' experts clarified that under Venezuelan law, the non-performance of a contract in and of itself is a *prima facie* breach of such contract:[668]

> ARBITRATOR AYNÈS: […] The starting point, of course, is because we have to decide on a claim for liability in contract, of course, the starting point is to find a breach, and Mr. Kahale repeatedly pointed out rightly that the first point is to have a breach. **Is it right that, under your law, a breach of a contract—the nonperformance of a contract, in itself, is prima facie a breach of the contract?**
>
> THE WITNESS [Prof. Brewer-Carías]: **Yes, it is like that.**
>
> ARBITRATOR AYNÈS: So, here it seemed that **it is not disputable that, at a certain point in time PdVSA ceased to perform the Association Agreement**; is that right?
>
> THE WITNESS: Yes.
>
> ARBITRATOR AYNÈS: **So, can we take it as a legal consequence that that is prima facie a breach of the Contract? Is that right, under your law?**
>
> THE WITNESS: **Correct.**
>
> ARBITRATOR AYNÈS: Or do we have to find other type of breach, specific violation of a specific clause, or something like that, or can we take it as a starting point that the nonperformance of the Contract is the breach.
>
> THE WITNESS: Is a breach. That's correct.[669]
>
> […]

[666] C-PHB, §§ 23(I), 27, 329.

[667] *Supra*, fn 464.

[668] Tr. (Day 6), 1641:17-23 (Prof. Brewer-Carías); Tr. (Day 7), 1947:18-23 (Prof. Mata Borjas).

[669] Tr. (Day 6), 1731:15-1732:23 (Prof. Brewer-Carías).

> ARBITRATOR AYNÈS: So, you--normally, you have not to find a specific provision which is breached in cases where the Contract has been given up, you know? When, at a certain point in time, the Contract is no more performed.
>
> THE WITNESS: Yes, I agree.
>
> […]
>
> THE WITNESS: **If you have a contract, and you do everything not to accomplish with the contract, you don't have to identify one word or phrase in the text of the contract. It's the will not to comply with the obligation of the contract. That's the basic breach.**[670]

420. Prof. Mata Borjas corroborated Prof Brewer-Carías' testimony:

> ARBITRATOR AYNÈS: […] [I]s there any difference between a breach in the course of performing of a contract, that means you are badly performing, or you are--and then you have to appreciate whether it is serious, not serious and so on, **and a breach which consists in nonperforming at all a contract at a certain point in time**?
>
> THE WITNESS: I'm not sure I understand, but, in any case, the nonperformance--you might not perform a trivial or a minor obligation under Venezuelan law, according to Professor Mélich. That should not trigger the consequence, which is the option for the innocent Party to request performance, to request the termination of the agreement, and in any case to request compensation for damages.
>
> ARBITRATOR AYNÈS: **Yes, but if it is nonperformance of the contract as a whole?**
>
> THE WITNESS: **Well, then, you have a very serious breach, and there is no doubt that damages would be the consequence unless a "causa extraña no imputable", non-imputable element, interrupts the chain of causation.**[671]

421. The Claimants also refer to the testimony of the Respondents' expert, Prof. García Montoya, who conceded during the Hearing that the Respondents' takeover of the Projects "would have impeded the performance of the Agreements [and] the continuity of the Project… **[which] in and of itself, constitutes a breach** [and] entails a violation of the obligation not to place obstacles and not to frustrate the expectations of the other Party."[672]

422. The Respondents have addressed the Claimants' allegations regarding breaches of the contractual provisions in great detail. However, they have not commented, either during the Hearing or in their PHB, on whether or not their non-performance of the AAs and the Guarantees constitutes a breach under Article 1271 VCC. In particular,

[670] Tr. (Day 6), 1742:3-15 (Prof. Brewer-Carías) (emphasis added).

[671] Tr. (Day 7), 1947:3-23 (Prof. Mata-Borjas) (emphasis added).

[672] Tr. (Day 8), 2046:22-2047:16 (Prof. García Montoya) (emphasis added).

the Respondents' legal experts were not taken to that issue during their examination. Instead, the Respondents proceed straight to arguing that their liability is precluded due to the fact that, first, they were acting in compliance with the law (i.e. the 2007 Nationalization Decree) and, second, the Claimants have failed to establish the causal link between their non-performance and the loss suffered. Going into the elements of contractual liability, "compliance with the law" and "causation" are "downstream" elements, namely, flowing from the Respondents to the Claimants; as compared to the elements of existence of an obligation and its breach, which flow "upstream" from the Claimants to the Respondents.

423. In any event, as with its discussion regarding the breach of the "reasonable commercial efforts" obligation, the Tribunal considers it prudent to conduct the present analysis by examining whether the first two elements of civil liability, namely, (i) the existence of an obligation; and (ii) breach of that obligation, have been satisfied.

i. <u>Are the Respondents obligated to perform the AAs and the Guarantees?</u>

424. As regards the existence of an obligation to perform the AAs and the Guarantees, in light of the testimony of the Parties' legal expert witnesses set out above, both Parties appear to agree that such an obligation indeed exists. They also appear to agree that pursuant to Article 1271 of the VCC, the total non-performance of a contract is a *prima facie* breach which raises a presumption of liability.[673]

425. The Tribunal is convinced and notes that such a conclusion is also consistent with the nature of the obligation to perform a contract. To recapitulate, the Respondents have characterized the obligation of "best efforts" invoked by the Claimants as obligations of means and on this basis argued that it was the Claimants burden to prove breach.[674]

426. However, this would not be the case with the obligation to perform the contract. As conceded by the Respondents' expert Prof. García Montoya at the Hearing, with

[673] *Supra,* §§ 419-421; Tr. (Day 8), 2114:23 – 2115:12 (Prof. García Montoya).

[674] As a matter of legal principle, there appears to be no controversy between the Parties as to the difference between an obligation of means and an obligation of result (For the Respondents' position *see* §§ 363-364 *supra*. For the Claimants position, *see* C-PHB, §§ 339–341). As set out in the various authorities cited by the Respondents, an obligation of result is one where the debtor promises to achieve a specific result, such that the achievement of such a result is itself part of the obligation. In contrast, the debtor does not guarantee a result when he undertakes an obligation of means. *See*, *supra*, fn. 587.

respect to an obligation of result, "performance is an end in itself",[675] and non-performance of an obligation of result raises a presumption of liability:

> **Q.** […] Suppose that, in January 2007, the Respondents led by Mr. Ramírez as President of PdVSA, unilaterally took over operations of the Projects. […] They have security prevent Claimants from entering the site. They stopped payment to Claimants. Would that be a breach of the Association Agreements?
>
> **A. If the taking was unilateral, if there was no motivation or justification under the Decree-Law, this would be a deviation of power, and this would bring about liability**, and Respondents would be acting against the principle of legality, and this would bring about personal liability.
>
> **Q.** What provision or provisions of the Association Agreements would Respondents have breached in this situation?
>
> **A. In this case, they would have impeded the performance of the Agreements,** and they would have acted against the duties of respect to freedom, and this is something that the authority needs to respect and public entities also need to respect. They would have impeded the performance of the Project.
>
> **Q.** Are you referring to a specific provision when you referred to duties with respect to freedom? Are there particular express provisions of the Association Agreements to which you are pointing?
>
> **A. Well, in this case they would have impeded the continuity of the Project. This, in and of itself, constitutes a breach. They are preventing the Project from being performed, and this entails a violation of the obligation not to place obstacles and not to frustrate the expectations of the other Party, and this would be proceeding against good faith.**[676]

427. Arguably, performing the AAs is indeed an end in itself. When parties enter into a contract, the least that is expected in terms of the result sought to be achieved, is that the contract will be performed *per se;* and failure to perform or obstructing performance would hinder the achievement of this result. The Tribunal therefore considers that performance of the AAs, more exactly of some of the obligations under the AAs, and the Guarantees is an obligation of result. Accordingly, the consequences of non-performance of such an obligation of result will have to be considered in light of Article 1271 of the VCC, as conceded by the Respondents.[677]

428. Having concluded that the Respondents were indeed obligated to perform the AAs and that failure to do so would constitute a *prima facie* breach, the Tribunal shall now proceed to assess whether or not the Respondents acted in breach of their obligation.

---

675 García Montoya ER II, **RER-5**, n. 106 (emphasis added).

676 Tr. (Day 8), 2046:22-2047:17 (Prof. García Montoya) (emphasis added).

677 García Montoya ER II, **RER-5**, § 49.

ii. Did the Respondents breach their obligation to perform the AAs and the Guarantees?

429. Even though the Respondents have not engaged with the Claimants' argument, raised for the first time during the Hearing, regarding the existence and breach of a general obligation to perform the AAs and the Guarantees, the burden still lies on the Claimants to prove that the Respondents have committed a breach of their obligation to perform these contracts.

430. The Tribunal finds that the Claimants' case pertaining to the Second Willful Breach Claim is rather nebulous inasmuch as the Claimants merely allege that the Respondents failed to perform the AAs "during the course of 2007".[678] The Claimants have not clearly set out (i) when this purported "non-performance" began or (ii) what actions constituted such non-performance.

431. Thus, with a view to bringing some clarity to the Claimants' case and also in order to account for the Respondents' counterarguments, to the extent that any such arguments have been made, the Tribunal considers it prudent to examine the Second Willful Breach Claim in the context of three distinct time periods:

1) **Prior to February 2007**, this being the period prior to the enactment of the 2007 Nationalization Decree;
2) **February to 30 April 2007**, this being the period from the enactment of the 2007 Nationalization Decree until the day prior to the Expropriation; and
3) **1 May 2007 onwards**, this being the period from the date of the Expropriation and afterwards.

432. The Tribunal deems these particular time periods to be relevant with a view to effectively analyzing both Parties' submissions. In this respect, while the Claimants argue that the "non-performance" took place "during the course of 2007", the Respondents' counterargument is that their actions were in compliance with the law. Put differently, the Respondents contend that they were complying with the mandate of the 2007 Nationalization Decree and thus their liability is precluded. With due regard to these submissions, the Tribunal notes that the 2007 Nationalization Decree was enacted in February 2007. Thus, from this period onwards, the Tribunal will have

[678] C-PHB, §§ 329, 23(l), 27; The Tribunal notes that there appears to be only one occasion where the Claimants suggest that the Respondents' failure to perform the AAs and the Guarantees commenced from the date of the Expropriation i.e. 1 May 2007. *See* C-PHB, § 179 ("From [1 May 2007] onwards, the Respondent's completely failed to perform their obligations under the AAs and Guarantees").

to assess the Claimants' allegations having regard to the implications, if any, of the Respondents' defenses. In the period prior thereto, it follows that the Respondents' defenses resting on the 2007 Nationalization Decree will not apply. With these considerations in mind, the Tribunal will now assess whether the Respondents are in breach of their obligation of performance in the context of the aforesaid three periods.

433. With respect to the first period, i.e. prior to February 2007, the Tribunal finds that the Claimants have not articulated in any of their pleadings what actions they consider constitute non-performance by the Respondents. Therefore, given the insufficiency of the Claimants' allegations and in the absence of any proof to the contrary, the Tribunal considers that non-performance of the AAs by the Respondents during this period cannot be said to have occurred.

434. With respect to the second period, i.e. February to 30 April 2007, the Tribunal is, once again, not convinced that any non-performance of the AAs occurred during this period. The Tribunal reiterates that in none of their pleadings have the Claimants made allegations regarding which particular actions by the Respondents constituted "non-performance" during this period. To borrow the words of the Respondents' expert witness, Prof. García Montoya, the Claimants have not shown that the Respondents "unilaterally took over operations of the Projects. […] They ha[d] security prevent Claimants from entering the site [or that] [t]hey stopped payment to Claimants"[679] or that they "impeded the continuity of the Projects" or "prevented the Projects from being performed" in any way. The Tribunal further notes that significant contemporaneous correspondence was addressed by the Claimants to the Respondents during this period.[680] However, in none of these letters did the Claimants make a single allegation that the Respondents had ceased to perform or were preventing the Claimants' performance of the AAs.

435. Rather, it appears that the only actions which according to the Claimants, constituted breaching conduct during this period, is the Respondents' participation in the

[679] *Supra*, § 426.

[680] Letter from President of ConocoPhillips to Mr. Del Pino (Petrozuata AA), 6 March 2007, **C-170**; Letter from President of ConocoPhillips to Mr. Del Pino (Hamaca AA), 6 March 2007, **C-171**; Letter from President of ConocoPhillips to Mr. Del Pino (Petrozuata AA), 13 March 2007, **C-172**; Letter from President of ConocoPhillips to Mr. Del Pino (Hamaca AA), 13 March 2007, **C-173**; Letter from President of ConocoPhillips to Minister Ramírez (Petrozuata AA), 12 April 2007, **C-174**; Letter from President of ConocoPhillips to Minister Ramírez (Hamaca AA), 12 April 2007, **C-175**; Letter from ConocoPhillips to Ruben Figuera (Petrozuata AA), 24 April 2007, **C-176**; Letter from ConocoPhillips to Ruben Figuera (Hamaca AA), 24 April 2007, **C-177**; Letter from ConocoPhillips to Board of Directors of Petrolera Hamaca, S.A., Hamaca Project Transition Committee, and Board of Petrolera Amariven, 30 April 2007, **C-180**; Letter from ConocoPhillips to Board of Directors of Petrozuata C.A., Petrozuata Transition Committee, 30 April 2007, **C-181**.

migration negotiations pursuant to the 2007 Nationalization Decree. The Tribunal recalls that the 2007 Nationalization Decree:

> provided for the transformation of all oil associations, including the [Projects], into mixed companies […]. Article 3 […] required the associations to transfer operational control of the projects to PDVSA by April 30, 2007. Article 4 granted the parties to the associations a period of four months from the date of publication of [the 2007 Nationalization Decree] to reach agreement on the other terms and conditions of the migration, […]. In case no agreement was reached within the initial four-month period, Article 5 required PDVSA subsidiaries to assume the activities carried out by the associations to ensure the continuity of the operations.[681]

436. In the instant case, it appears that upon the enactment of the 2007 Nationalization Decree, the Claimants and the Respondents entered into negotiations with the Government for the migration of the Project companies, i.e. Petrozuata C.A. and Hamaca JVC, into *empresas mixtas* (mixed enterprises). However, since no agreement was reached with the Claimants on the migration within the four-month period provided for under the Decree, PDVSA's subsidiaries took over the Projects on 1 May 2007. The Claimants contend that the Respondents allegedly threatened and forced them to accept the migration on terms which were entirely biased in the Respondents' favor and under threat of expropriation. However - and this, in the Tribunal's view, is crucial - the Claimants submit that these very same threats constitute a breach of the "reasonable commercial efforts" obligation by the Respondents.

437. Given the tenor of the Claimants' submissions, the Tribunal is of the view that either one of two conclusions follows. First, that there is no factual allegation of "non-performance" of the AAs and the Guarantees between February – 30 April 2007. As a consequence, the Claimants have once again failed to prove breach of the AAs through such non-performance. Second, and in the alternative, that the breach of the "reasonable commercial efforts" obligation between February – 30 April 2007 due to the Respondents' participation in the migration negotiation also constitutes "non-performance" of the "reasonable commercial efforts" obligation. However, this would be fallacious. Assuming this is indeed the Claimants' argument, it is clear that they are not alleging any new breach, but only re-characterizing the breach of the "reasonable commercial efforts" obligation. It cannot be that breach of the "reasonable commercial efforts obligation" can be equally read as "non-performance of the reasonable commercial efforts obligation". In any event, this is not what the Claimants have demonstrated.

[681] R-PHB, § 271; 2007 Nationalization Decree, **C-166**, Articles 1, 3, 4 and 5.

438. In the circumstances, the Tribunal considers that the Claimants have failed to prove that the Respondents had ceased to perform their obligations under the AAs between February and 30 April 2007. Accordingly, there is no basis for the Respondents' liability under Articles 1264 and 1271 of the VCC.

439. The Tribunal acknowledges that it may also need to address the question of whether the Respondents' participation in the migration negotiations constituted a breach of their "reasonable commercial efforts" obligation. However, in the Tribunal's view, it is clear that any migration, forced or otherwise, would only have taken place pursuant to the 2007 Nationalization Decree.[682] Therefore, even assuming, for the sake of argument, that the Respondents did "force" the Claimants to migrate, answering this question is not crucial or in any event sufficient, as the Respondents' liability will turn on their "compliance with law" and/or "causation" defense. Therefore, the Tribunal considers that rather than opining on this allegation at the present juncture, it is apposite to consider the Parties' arguments in the context of the Respondents' defense of "compliance with law".[683]

440. Lastly, with respect to the third time period, i.e. 1 May 2007 onwards, the Tribunal notes that it is not disputed that the AAs were not performed on and from the date of the Expropriation on 1 May 2007. Thus, it follows that as from the Expropriation on 1 May 2007, the Respondents have arguably breached their obligation to perform the AAs under Venezuelan law.[684] Be that as it may, the views recorded above regarding the implications of the Respondents' compliance with law and causation defenses would be equally applicable to the Respondents' liability for non-performance in the third period. In the circumstances, the Tribunal must determine whether the Respondents are precluded from liability for any reason, a question which the Tribunal shall turn to next.

Conclusion

441. In sum, the Tribunal concludes with respect to the Second Willful Breach Claim that: (i) the Respondents were obligated to perform the AAs and the Guarantees under Venezuelan law; (ii) there is no question of non-performance of the AAs and the

[682] 2007 Nationalization Decree, **C-166**, Articles 1, 3 and 5.

[683] *Infra*, §§ 443-474.

[684] The Tribunal notes that the AAs were purportedly terminated and all rights and assets in the Projects formally transferred to PDVSA on 8 October 2007, pursuant to the "Law on the Effects of the Process of Migration to Mixed Companies of the Agreements of the Orinoco Oil Belt" (*See* SoC, § 141; *Law on the Effects of the Process of Migration into Mixed Companies of the Association Agreements of the Orinoco Oil Belt, as well as the Exploration at Risk and Profit Sharing Agreements*, Official Gazette No. 38,785, published on 8 October 2007, **C-198**). Therefore between May 2007 and October 2007, neither Party can be said to have performed the AAs.

Guarantees in the period prior to February 2007 as nothing to this effect has been alleged by the Claimants; (iii) there is no non-performance by the Respondents between February and 30 April 2007 as the Claimants have failed to prove any actions by the Respondents that amount to "non-performance"; (iv) the only non-performance is as of 1 May 2007. However, this conclusion is not in any way dispositive of the Respondents' liability, which rather turns on them successfully demonstrating that their liability is rightfully precluded.

442. Accordingly, the Tribunal now turns to the next issue, namely, whether the Respondents' purported liability for participating in the migration negotiations from February 2007 and their liability for non-performance of the AAs and the Guarantees from 1 May 2007 is precluded on any grounds.

e. *Is the Respondents' liability precluded on any grounds?*

443. Having studied the Parties' submissions on the potential preclusion of the Respondents' liability, the Tribunal found them rather convoluted. In a nutshell, the Respondents raise two grounds on the basis of which they claim that their liability for any breach must be precluded: (i) the lack of any fault as they were acting in compliance with the law (i.e., element (iii) of the civil liability test); and (ii) the absence of a causal link between their purported breaches and the Claimants' loss (i.e., element (v) of the civil liability test). It is in the context of the second ground (i.e. the element of causation) that the Respondents contend that the law, namely the 2007 Nationalization Decree, was a non-attributable external cause as it was passed by the Government and therefore acts as a break in the causal link between the Respondents' actions and the Claimants' loss. The Claimants, on the other hand, take a completely different track. In their view, "non-attributable external cause" implicates the element of "fault", inasmuch as the 2007 Nationalization Decree will only spare the Respondents of liability if it was external and not attributable to them. In light of what appear to be arguments that are somewhat intertwined, the Tribunal considers it prudent to first clarify the Parties' positions and the issues they raise, before proceeding to its assessment of such issues.

444. The main thrust of the Respondents' defense against the Willful Breach Claims is that their liability under Venezuelan law, if any, is precluded because all of their actions were undertaken in compliance with law, i.e. the 2007 Nationalization Decree. Thus

the Respondents argue that their liability is precluded due to the absence of fault, i.e., the third element of civil liability test.[685]

445. The Respondents cite numerous authorities to the effect that, "whoever causes damage to another through an act that in other circumstances would have every appearance of fault, would not be liable if he acted under a legal mandate […] since the action he has performed is not unlawful but, on the contrary, perfectly legal."[686] Thus, the Respondents argue that they had no other option but to carry out the migration and consequent Expropriation of the Projects as this was mandated by the 2007 Nationalization Decree.[687] In their view, one of the essential elements of civil liability i.e. 'fault' on their part, is absent in this case. To buttress this argument, they add that in any event, they are required to act in accordance with the directions and policies of the Government – a fact which the Claimants were well aware of when they invested in the Projects.[688]

446. The Claimants reply that the Respondents' above attempt to cast itself in the role of an "innocent bystander" is surreal.

447. First, they re-characterize the Respondents' "compliance with law" defense as an *hecho del príncipe*. Claimants' expert, Prof. Brewer-Carías, explains the concept of *hecho del príncipe* and why it is the same as "compliance with law", as follows:

> [W]hen one party allege[s] that [it] is complying with a law in order to not comply with contractual obligation, this is *an excuse of noncompliance*, and […] it is in relation to an act of Government, *it is exactly the same as the theory of fait du prince as an extraneous non-attributable cause that can excuse the compliance of contractual obligations. So, [hecho del príncipe] is the same [as compliance with law, but] with another name.*[689]

448. In light of the above, the Claimants interpret the Respondents' defense as seeking to escape liability on the basis that there is no *breach*. According to the Claimants, the Respondents' approach is therefore misguided, as the compliance with law defense

---

[685] R-PHB, §§ 427 ff.

[686] R-PHB, § 428; Oscar E. Ochoa G., General Theory of Obligations, Civil Law III, Vol. II (2009), **RLA-136**, pp. 563-565; García Montoya ER I, **RER-1**, § 52; Carlos Eduardo Acedo Sucre, THE FUNCTION OF FAULT IN LIABILITY FOR UNLAWFUL ACT IN VENEZUELAN LAW, COMPARED WITH FRENCH AND ITALIAN LAW (1993), García Montoya ER I, **RER-1 App. GM-40**; Enrique Urdaneta Fontiveros, MISTAKE, DECEIT AND DURESS UB CONTRACT FORMATION (2009), García Montoya ER I, **RER-1 App.GM-41**.

[687] 2007 Nationalization Decree, **R-4**, Articles 1, 3, 5.

[688] R-PHB, § 434; PDVSA Original Articles of Incorporation and By-laws, **R-70**; Decree No. 855, Revised Articles of Incorporation and By-laws of PDVSA, Official Gazette No. 33.321, published on 3 October 1985, **R-71**.

[689] Tr. (Day 6), 1622:7-14 (Prof. Brewer-Carías).

cannot under any circumstances undo the existence of the breach itself. Rather, the compliance with law defense excuses fault.[690]

449. On this basis, the Claimants argue that in order to escape liability on the strength of a *hecho del príncipe* or a *fait du prince,* the Respondents must establish that such *hecho del príncipe/ fait du prince* was "an extraneous non-attributable cause that can excuse the compliance of contractual obligations". Put differently, according to the Claimants, in order to escape liability it is not enough for the Respondents to merely establish that they were acting "in compliance with the law", they must also show that such law was a non-attributable extraneous cause.[691]

450. According to the Respondents however, '*hecho del príncipe'* or "non-attributable extraneous cause" goes to the element of "causation" (i.e. the final element of the civil liability test). The Respondents contend that "the debtor may have committed a breach, but no liability arises from that breach because the *hecho del príncipe* breaks the chain of causation between the breach and the damage."[692] On this premise, the Respondents' purportedly use *hecho del príncipe* as an additional defense to show the absence of causation, namely that the 2007 Nationalization Decree being an act of the Government, broke the causal link to the damages suffered. They argue that even assuming their role in procuring the 2007 Nationalization Decree were to be considered a cause in fact, their actions do not satisfy the legal standard/test of causation under Venezuelan law.

451. Having studied the Parties' submissions, the Tribunal considers that regardless of the terminology employed by the Parties, in order for the Respondents' liability for non-performance of the AAs and the Guarantees to be precluded, the Respondents have to establish that any fault on their part was the result of a 'non-attributable external cause', both in fact and in law.[693] This conclusion results from Article 1271 of the

690 C-PHB, § 350. There had been some debate on the effect of the compliance with law defense, which led the Tribunal to seek a clarification from the Parties as to the differences between 'compliance with law' and '*hecho del príncipe'* in so far as their effect on contractual liability is concerned. Although it appears at first blush that there is some divergence in views, upon closer examination of the Parties' responses, both Parties appear to agree in principle on the effect of a 'compliance with law' defense. The Respondents' answer to the Tribunal's question in this regard was that the "defense of compliance with law relates to the element of fault [and that i]f compliance with law is established, it precludes a finding of contractual […] liability." Along the same lines, the Claimants respond that the "'[c]ompliance with law' defense […] excuses fault (*culpa*) and thus *liability* for breach". Thus the divergence, if there should be one, appears to be with regard to the correct place in the civil liability test to assess the relevance of "non-attributable external cause". *See* R-PHB, § 440; Claimants' Responses to Tribunals Questions, C-PHB, Appendix A, p. 3 Question 2(b), para 7.

691 C-PHB, §§ 347 ff.

692 R-PHB, § 440.

693 C-PHB, § 348.

VCC, which provides that a debtor shall be required to pay damages for non-performance of an obligation, "unless he proves that the non-performance […] arises from an external cause not attributable to him".[694]

452. In sum, even if the Tribunal accepts that the Respondents' actions after the 2007 Nationalization Decree were taken pursuant to the provisions of this Decree – and this fact does not appear to be disputed by the Parties[695] – the only way for the Respondents to avoid liability is by establishing that the 2007 Nationalization Decree was non-attributable and external to them.

453. As far as the burden of proof is concerned, the Parties do not dispute that the burden of proving that the 2007 Nationalization Decree is a non-attributable external cause, rests with the Respondents, who seek to invoke this defense.[696]

454. The Parties' submissions having been thus clarified, the issues that the Tribunal shall proceed to examine in the context of the Respondents' defenses to liability are, (i) whether the 2007 Nationalization Decree, is as a matter of fact, not-attributable and external to the Respondents; and (ii) assuming that the 2007 Nationalization Decree is not external and attributable to the Respondents, is it the "cause in law" or the legally sufficient cause of the Claimants' losses.

i. Is the 2007 Nationalization Decree not attributable and external to the Respondents, as a matter of fact?

455. In order to establish that the 2007 Nationalization Decree is a non-attributable external cause (or *causa extraña no imputable*) as a matter of fact, the following elements must be satisfied, namely, (i) the act occurs after the parties enter into the contract; (ii) it is unavoidable, unforeseeable, and irresistible; (iii) it occurs in the total absence of fault of the defendant; and (iv) it renders performance absolutely impossible.[697]

456. The Claimants' expert, Prof. Brewer-Carías, stated during the Hearing that:

> [The 2007 Nationalization Decree] couldn't be extraneous to PdVSA, first, due to the organic link between the controller of the public enterprises and the controlled public enterprise, particularly in the oil sector. And, second, due to

---

[694] VCC, **CLA-2**, Article 1271; C-PHB, § 348.

[695] R-PHB, §§ 427 *et. seq.*; C-PHB, §§ 348-350.

[696] C-PHB, § 355; Rejoinder § 265; Garcia Montoya ER II, **RER-5** § 99; Tr. (Day 8), 2086:17-2087:3.

[697] C-PHB, § 355; Rejoinder § 265; García Montoya ER II, **RER-5**, § 99.

> the fact that the Minister acting defining these policies and proposing the Decree-Law was at the same time the President of PdVSA.[698]

457. Elaborating on this idea further, the Claimants submit three *independent* grounds as to why the 2007 Nationalization Decree cannot be extraneous to PDVSA: either (i) it was for the specific purpose of conferring a financial benefit on the State-entity i.e. PDVSA, in which case, there is a presumption of non-extraneousness; *or* (ii) the Government and the State-entity have become organically linked; *or* (iii) the state-owned entity, PDVSA, contributed to the issuance of the 2007 Nationalization Decree.[699]

458. In light of the Tribunal's finding that the Respondents did not procure the 2007 Nationalization Decree, the examination of the third ground mentioned above can be dispensed with. In any event, the Tribunal notes that the Claimants' arguments once again rely on the "dual hats" worn by Mr. Ramírez and Dr. Mommer. As already determined above, in the Tribunal's view the Claimants' "dual hat" theory does not withstand scrutiny. Accordingly, the Tribunal will only assess the arguments made on the first two grounds.

459. As regards the first ground (that the 2007 Nationalization Decree was for the specific purpose of conferring a financial benefit on the Respondents), the Claimants rely on the Böckstiegel Guidelines[700] to determine whether the *hecho del príncipe* defense is available in this case.[701] Pursuant to these Guidelines, the distinction between a State and a state-enterprise can be ignored and the *hecho del príncipe* defense discarded if it is obvious that the State exercises its sovereign powers with the clear aim of modifying contractual obligations and/or extricating the state-entity from liability.[702]

460. The Claimants submit that the Böckstiegel Guidelines' approach of focusing on the nature and the purpose of the State act has been widely applied and accordingly anydefenses have been rejected when the sovereign act was for the benefit of the

---

[698] Tr. (Day 6), 1622:18-24 (Prof. Brewer-Carías).

[699] C-PHB, § 357.

[700] VCC, **CLA-2**, Article 4 ("The Law must be given the effect that appears evident from the meaning of the words, in accordance with the connection among the words themselves and the intention of the legislator. When there is no specific provision in the Law to apply, the provisions that regulate similar cases or analogous subject matters shall be considered; and, if there were still any doubt, the general principles of the law will apply."); Brewer Carías ER, **CER-5**, § 68 (arguing that they apply as 'general principles of the law'); Tr. (Day 6), 1702:12-1704:4 (Prof. Brewer-Carías).

[701] C-PHB, §§ 360-364.

[702] Karl-Heinz Böckstiegel, ARBITRATION AND STATE ENTERPRISES: A SURVEY ON THE NATIONAL AND INTERNATIONAL STATE OF LAW AND PRACTICE (1984), **CLA-73**, p. 47 ("Böckstiegel Guidelines").

State-entity.[703] In a similar vein, given that the purpose of the 2007 Nationalization Decree was to ensure that the entire financial benefit of the AAs flowed only to the Respondents and could then be applied towards Government spending, the Claimants conclude that the Respondents cannot invoke compliance with law or *hecho del príncipe.*

461. As to the second ground (that the Respondents and the Government are organically linked), the Claimants rely on the decision in *Air France*[704] to argue that the Government and PDVSA had become organically linked, such that the 2007 Nationalization Decree was not extraneous to the Respondents. According to the Claimants' expert, Prof. Brewer-Carias, "it is impossible to say that an act of the Minister of Energy and Mines would be extraneous to the main company that acts in the oil sector in Venezuela, and *even less* if the President of the company is at the same time the minister."[705]

462. Pertinently, this organic link is not merely anchored on the Claimants' "dual hat" theory. The Claimants' expert, Prof. Brewer-Carias, has also pointed to other criteria which, in his view, lead to the undeniable conclusion that PDVSA was inextricably linked with the State:

i. PDVSA and its subsidiaries became "integrated into the national Public Administration" and "subject to […] political and administrative control by the National Executive."

ii. PDVSA's By-laws are themselves an act of Presidential authority, and state that the National Executive Power, through the Ministry of Energy and Mines, will set policies, guidelines, and other provisions for PDVSA.

iii. All capital stock of PDVSA is provided by the "Republic of Venezuela," and all the shares of PDVSA, according to Article 303 of the Constitution, are and must remain the ownership of the Republic.

---

[703] Pierre Lalive, *Arbitration with foreign states or state-controlled entities: some practical questions*, *in* Julian D. M. Lew, Contemporary Problems in International Arbitration (1987), **CLA-78**; A. H. Hermann, *Rebuff for a Portuguese State Trader*, FINANCIAL TIMES, 27 February 1986, **C-248**; Anton Heini, *The substantive public policy in the new Swiss law of international arbitration*, *reprinted in* TransLex (1989) **CLA-80**.

[704] *Air France*, French Cour de Cassation (Labor Chamber), Decision No. 69-40253, Judgment dated 15 April 1970, **CLA-54**; *Air France*, Conclusions by General Counsel Robert Mellottée on the French Cour de Cassation (Labor Chamber) Decision No. 69-40253, *Recueil Dalloz*, Jurisprudence (1971), **CLA-55**; Brewer-Carías ER, **CER-5,** §§ 58-62.

[705] Tr. (Day 6), 1623:21-25 (Prof. Brewer-Carías)

iv. The By-laws provide that the "Ministry of Energy and Mines and other Ministries that may be appointed from time to time by the President of the Republic shall exercise the representation of the Republic in the Shareholders' Meeting, which shall be presided over by the Ministry of Energy and Mines."

v. PDVSA's board of directors comprises government officials and appointees.

vi. PDVSA and the Government cooperated to use oil revenues to support the Government and further PDVSA's activities.[706]

463. In light of the above, the Claimants submit that the relationship of ownership and control after 2003 clearly constitutes an organic link between the Government and PDVSA, which precludes a finding that the 2007 Nationalization Decree was extraneous.

464. The Respondents reply that each of the three elements necessary to ascertain that the 2007 Nationalization Decree was non-attributable and external to the Respondents "are all present [in this case]".[707] Regarding the Claimants' reliance on the Böckstiegel Guidelines and the *Air France* decision, the Respondents submit as follows:

- The Böckstiegel Guidelines have been misapplied in the instant case. Quoting the Guidelines in full,[708] the Respondents point out that the Claimants rely on the wrong rule therein. In their view, the rule cited by the Claimants – to argue that the acts of the Government are not extraneous if they are for the benefit of the state-entity – is only applicable to *administrative acts* of the State's executive organs. Where the State act is a 'law of general application' the Guidelines provide that by definition this law will be recognized as a *force majeure*, unless the private enterprise supplies *prima facie* evidence that the State passed such a law so that it could escape fulfilling its contractual obligations.[709]

- The *Air France* decision is not applicable in the instant case. That case did not involve a State act, but the decision of a supervising authority which was in fact "organically related with the normal operations" of the State-entity, which is why the decision of such an authority was not considered external to the State-entity

[706] Brewer-Carías ER, **CER-5**, §§ 67-73.

[707] R-PHB, § 449; *supra*, § 455.

[708] Böckstiegel Guidelines, **CLA-73**, R-PHB, § 926.

[709] Böckstiegel Guidelines, **CLA-73**; R-PHB, § 926.

i.e. Air France. The Respondents further contend that the reliance on the *hecho del príncipe* or *fait du prince* is misplaced because these doctrines permit the private contracting party to seek damages from its co-contracting State party, when the latter makes the performance of the contract more burdensome pursuant to its own actions. *A contrario*, it cannot apply when the measure at issue emanates from a public entity which is not a party to the contract.[710] Thus, given that the present case involves "an act by the National Government via the Legislative Branch" and not by "PDVSA" the latter is released from any responsibility.[711]

465. To begin with, the Tribunal is not convinced that any of the legal principles cited by the Claimants apply to the determination of the present question. The Claimants' expert, Prof. Brewer-Carías seeks to import the Böckstiegel Guidelines and French jurisprudence on the grounds that they are general principles of law, considering that Article 4 of the VCC allows recourse to general principles of law. However, such reliance on Article 4 is questionable at best. Article 4 of the VCC insofar as it is relevant provides that:

> […] When there is no specific provision in the Law to apply, the provisions that regulate similar cases or analogous subject matters shall be considered; and, if there were still any doubt, the general principles of the law will apply.[712]

466. It appears evident to the Tribunal that one cannot simply rely on 'general principles of law' at will. Such recourse is only permitted if there is no specific provision of law to apply, nor any provisions that can be applied by analogy. The Claimants have not shown this to be the case. Equally, the Claimants have not shown that either the Böckstiegel Guidelines or the *Air France* principles have been accepted in Venezuelan law, i.e. the applicable law in the present arbitration; as a matter of fact, relying on French doctrine, as persuasive as it may be, is almost an admission that there would not be any Venezuelan authorities to the same effect. In the circumstances, the Tribunal considers that the Claimants have sought to paint Article 4 of the VCC with a very broad brush, and the relevance of the authorities they cite is simply not tenable. Having said that, the Tribunal in any event agrees with the Respondents that both of these authorities are misapplied.

[710] R-PHB, § 454; Fanny Luxembourg, *Fait du Prince: Convergence of Private and Public Law*, 8 LA SEMAINE JURIDIQUE EDITION GÉNÉRALE (2008), **RLA-93,** § 2; André de Laubadère, Jean-Claude Venezia and Yves Gaudemet, TREATISE OF ADMINISTRATIVE LAW, VOL. I (15th ed., 1999), **RLA-94,** p. 837; Christophe Guettier, Law of Administrative Contracts (2004), **RLA-95,** p. 562.

[711] Rejoinder, § 268.

[712] VCC, **CLA-2**, Article 4.

467. The Böckstiegel Guidelines, insofar as they are relevant, provide as follows:

> *A. Acts of state in the form of administrative acts*
>
> 1. Due to the presumption that a state will not have its executive organs act to the detriment of its own foreign trade organs, including state enterprises, administrative acts of state should in principle not be considered as *force majeure*.
>
> 2. This presumption is not applied, however, if it can be seen *prima facie* or can be proved by the state enterprise that the administrative act was caused by general considerations not connected with this contract or this sort of contract.
>
> 3. In spite of rule 2 the presumption under 1 is applicable again, if the private party proves that in its specific case the general considerations did not apply.
>
> *B. Acts of state in the form of law*
>
> 1. If it is not a general law but a law for an individual case, the same rules apply as under A.
>
> 2. A general law, due to its *per definitionem* general character, will in principle have to be recognized as *force majeure*.
>
> 3. Rule B2 does not apply, however, if the private enterprise supplies at least *prima facie* evidence that it was in the interest of the state not to fulfil its contractual obligations which was the motivation of the law.[713]

468. Evidently, the Claimants are mistaken in their reliance on Part A of the Guidelines which pertains to the treatment of the *administrative acts* of one state organ (executive organs) vis-a-vis another (trade organs including state-entities). As admitted by the Claimants' expert Prof. Brewer-Carías, none of the laws at issue in the present case were administrative acts.[714] They were all "acts of the State in the form of law" which are clearly governed by Part B of the Guidelines and are thus subject to *force majeure* or analogous defenses, if they are of general application.[715] The Claimants' obvious reliance on the wrong guideline brings their argument regarding the relevance and applicability of the Böckstiegel Guidelines up short.

469. In any event, the exception under rule B3 would also not come to the Claimants' assistance as the purpose of the 2007 Nationalization Decree was not to renege from the Respondents' contractual obligations. The 2007 Nationalization Decree first and

---

[713] Böckstiegel Guidelines, **CLA-73**, pp. 47, 48. ("In practical examples the rules mean: if in a state-trading country the state refuses an export or import licence, this is not normally a case of force majeure (A1). […] If a foreign investor does not receive the transfer of profits due from a state enterprise because the transfer law has been changed by the legislative body, this is a case of force majeure (rule B2).")

[714] Tr. (Day 6), 1704:5-1707:14 (Prof. Brewer-Carías).

[715] Böckstiegel Guidelines, **CLA-73**, pp. 46-48.

foremost envisaged continued participation of foreign oil companies, but subject to an altered shareholding and company structure. It was only in the event that the Parties were unable to agree on the migration of the association to mixed enterprises that the 2007 Nationalization Decree envisaged the taking of the Project.[716]

470. As regards the Claimants' reliance on the *Air France* decision, the Tribunal agrees with the Respondents that the decision therein is distinguishable from the present case. In that case, the obligation to pay Air France personnel was assumed by Compagnie Air-France itself, albeit with the assent of its regulatory authority, pursuant to an approval granted by the same regulatory authority.[717] Subsequently, the same regulatory authority hindered performance of the contract. It is in this context, that the Cour de Cassation held that:

> [As the] modalities of determination of the salaries of [flight personnel] have been validly fixed by Compagnie Air-France with the approval of the Regulatory Authority […] the subsequent irregular intervention of *this authority* in an attempt, as such, to hinder the performance of the obligation […] cannot be opposed by [Air-France] subject to such regulation [being] an unforeseeable and insurmountable act of *a third party external to it*.[718]

471. As Respondents' expert, Prof. Garcia Montoya rightly pointed out during the Hearing, the implication of this distinction is that the administrative act in question, which hindered performance of the contract, was enacted by the same entity which was a party to the contract. In the present case however, the act in question i.e. the 2007 Nationalization Decree, is an act of the Government and moreover, the Government is not a party to the AAs and the Guarantees.

472. Further, much ado has been made about the criteria developed in the Air France decision to indicate the existence of an organic link between the State and the state-entity. Although it may appear at first blush, that the facts in this case fit neatly within this criteria, the Tribunal is unable to accede to this checklist approach. The generality of the conditions elaborated in the *Air France* case would result in a situation where every state-entity would be equivalent to the State. As a result, any and every act of the State would without exception be treated as an act of the state-entity and the compliance with law defense would be rendered a virtual dead letter. In

[716] 2007 Nationalization Decree, **R-4**, Articles 3, 4 and 5.

[717] *Air France*, Conclusions by General Counsel Robert Mellottée on the French Cour de Cassation (Labor Chamber) Decision No. 69-40253, *Recueil Dalloz*, Jurisprudence (1971), **CLA-55**.

[718] *Air France*, French Cour de Cassation (Labor Chamber), Decision No. 69-40253, Judgment dated 15 April 1970, **CLA-54**, p. 2 (emphasis added).

the Tribunal's view, such a position cannot be countenanced in the facts of the present case.

473. The Tribunal has already previously confirmed that the Respondents were not involved in procuring the 2007 Nationalization Decree. Additionally, the Tribunal notes that in their reliance on *Air France*, the Claimants appear to accept that the Respondents are mandated to follow the dictats of the Chávez Administration pursuant to PDVSA's Articles of Association and By-laws.[719] It would therefore follow that the consequences of the 2007 Nationalization Decree were "unavoidable, irresistible and rendered performance of the AAs and the Guarantees impossible". In the circumstances, the Tribunal concludes that the 2007 Nationalization Decree was indeed external and not attributable to the Respondents. Accordingly, at the very least, the Respondents are not at fault, which consequently precludes their liability for non-performance of the AAs and the Guarantees.

474. The Tribunal is of the view that the above determination is dispositive of the remaining case on willful breach. As the Tribunal has concluded that the Respondents' actions were not in any way the factual cause of the Claimants' losses it is not necessary for the Tribunal to examine the Parties' remaining arguments on causation. However, for the sake of completeness, the Tribunal proposes to address the Respondents' argument that they are in any event, not liable due to the absence of a causal link between their purported breaching conduct and the damages suffered by the Claimants.

ii. Is the 2007 Nationalization Decree the "cause in law" of the Claimants' loss?

475. The nub of the Respondents' argument on this issue is that regardless of any purported involvement in procuring the 2007 Nationalization Decree, they remain free from liability, as their alleged breaching conduct is not the *legally sufficient cause* of the Claimants' loss. Accordingly, this issue requires the Tribunal to assess whether any purported breach by the Respondents satisfies the legal standard of causation under Venezuelan law. Both Parties disagree on the legal standard of causation that is applicable under Venezuelan law.

476. The Respondents submit that the standard of causation prevalent under Venezuelan law, is that of "adequate causation" or "efficient/preponderant causation". Relying on

[719] *Supra*, § 462.

various authorities on Venezuelan law, the Respondents explain this standard as follows:

> Among the theories that try to explain the scope of the […] causal link […] the theory of adequate causation […] states that among the chain of events that determine the damage it is not correct to follow the standard of culpable act or the proximate act, nor that of the triggering event. **But it must be determined which of the events of the chain is legally adequate to cause the damage**.[720]

477. As to the test for determining the legally adequate cause, the Respondents submit that:

> [t]o identify the cause of the damage […] [t]he following question must be answered: is the action or omission of the allegedly liable party **in and of itself capable of normally producing such damage?** [I]f the answer is affirmative, it must be concluded that such condition is adequate and thus the cause of the damage; if the answer is negative, then we are dealing with a simple concurrent condition and not with the cause.[721]

478. Applying this test to the facts of the present case, the Respondents submit that the legally adequate cause of the Claimants' loss was evidently the 2007 Nationalization Decree which was, and could only, have been enacted by the Government. Even assuming the Respondents had any purported role to play in procuring the enactment of the Decree, the fact remains that such action was not *in and of itself* normally capable of causing the Claimants any loss and the Respondents are consequently absolved of liability.[722]

479. In contrast, the Claimants submit that the test for causation is set out in Article 1275 of the VCC which provides that:

> Even if failure to comply with the obligation is a result of willful misconduct, damages related to the loss suffered by the creditor and the profits of which he has been deprived, shall not exceed those that are the **immediate and direct consequence** of the failure to perform the obligation.[723]

480. Accordingly, they contend that the test to be applied is 'did Respondent's non-performance of the AAs and Guarantees directly cause to [sic] the Claimants' loss?'[724] The Claimants then go on to contend that causation under Article 1275 is not

---

[720] *Banco Provincial S.A. v. Banco Central de Venezuela*, García Montoya ER I, **RER-1 App. GM-92**, pp. 29-30. (emphasis added)

[721] Civil Code of Venezuela: Background/Codifying Commissions/ Parliamentary Debates/ Jurisprudence/ Doctrine/ Concordances (2001) García Montoya ER I, **RER-1 App. GM-64,** p. 469.

[722] C-PHB, §§ 461 ff.

[723] VCC, **CLA-2**, Article 1275 (emphasis added by the Claimant)

[724] C-PHB, § 391.

restricted to any particular theory of causation.[725] Their expert, Prof. Brewer-Carías, explains that "the [VCC] does not impose the need to identify one specific cause. If it is a chain of acts that are the cause of the willful breach, then all are part of the cause." Next, the Claimants' other expert Prof. Mata Borjas states that "'the discretion of the judge is paramount' to any theory [of causation] and that 'the purpose of the causation analysis…is not to apply a rigid formula…but rather to arrive at an appropriate outcome that reflects reality.'"[726] Thus, the Claimants essentially argue for a "case-by-case" analysis of causation.

481. In light of this standard of causation, the Claimants' case against the Respondents appears to be that:

> [T]he Government could not have nationalized the petroleum industry, expropriated the Projects, and destroyed the AAs without PDVSA's willing involvement. Had the Chávez Government been able to nationalize and operate the entire petroleum industry in Venezuela with "old" PDVSA still in place, it would have done so. But it could not. PDVSA's clashes with the Government from 1998 to 2001, and its labour strike in opposition to the Government's initial efforts to politicize the company in 2002, demonstrated that the Government could not accomplish its objectives without a "new" PDVSA. [And i]t was only with the willful and active participation of "new PDVSA" that Claimants' dispossessions were possible.[727]

482. The Claimants' thus conclude that the Respondents cannot now argue that the 2007 Nationalization Decree is only attributable to the Government and is a supervening act that breaks the chain of causation of the Claimants' losses.

483. Against this backdrop, the Tribunal will first determine the applicable standard of causation under Venezuelan law and second determine if the Respondents' actions satisfy this legal standard.

484. The Tribunal is unable to follow the Claimants' interpretation of Article 1275 of the VCC and their "case-by-case" or "discretionary" theory of causation. The Claimants make a rather expansive claim that "all commentators agree [that Article 1275] is not restricted by any particular theory of causation". However, they provide little basis for this statement.[728] Moreover, the strength of the Claimants' submission on the standard of causation is belied by the testimony of their own expert witness. When questioned on causation during the Hearing, Prof. Mata Borjas admitted that although

[725] C-PHB, § 398.

[726] Mata Borjas ER II, **CER-4**, § 39.

[727] SoC, §§ 91-94, 181; Reply, § 122; C-PHB, §§ 404-407.

[728] Mata Borjas, **ER II**, § 39, citing Maduro and Pittier, referred to by Respondents, R-PHB, § 462.

different commentators from different jurisdictions used different terminology, by and large, Venezuelan Courts and commentators have adopted the "adequate causation" test. It also appears to the Tribunal from this testimony, that the "discretion" the Claimants speak of, does not pertain to which theory of causation is applicable, but rather to the manner in which the Tribunal applies this theory to the facts of a specific case.[729]

> **Q.** But, Professor, did you adopt the adequate causation?
>
> **A.** I used that word in my First Report, yes.
>
> **Q.** So, did that mean that you were adopting the adequate causation test?
>
> **A.** I used the word, and for the purpose of my conclusions, I used the standard of adequate causation. I used the standard of a regular causation. I used the standards of ordinary causation because--
>
> […]
>
> **A.** Let me put it in very simple words. Number 1, there is a touchstone under Venezuelan law. The rule of law at play here is the application or it's for this Tribunal to apply or not to apply Article 1275. That's Number 1. Now, Article 1275 […] it's the notion that the damage must be the direct and immediate consequence of the alleged conduct**. Having said that, it is for the Tribunal or for any court handling a "responsibilidad civil" claim to analyze and to interpret that rule of law. In doing so, according to Venezuelan law, the rule of interpretation is stated under Article 4 of the Venezuelan Civil Code, which states that the interpreter of a rule of law in Venezuela have to first go to the words chosen by the lawmaker, but not stay with the words alone because, again, as it is the case with contracts, the purpose of the Interpreter is to determine the intent of the lawmaker, of the legislator. In this case, it is for this Tribunal to determine whether the damages is to direct an immediate sequence. That has to be made with discretion. It has to be made on a case by case basis.** The circumstances, the specific circumstances are for the Tribunal, not for me, to determine. In so doing, the Tribunal may choose between different theories. Secondly, that is to be done on a case by case basis, and then you have several decisions and several Italian authors making an identity between the theory of adequate causation with the theory of regular causation.
>
> **Q.** I'm sorry to interrupt. I just want to ask you a very simple question: Isn't adequate causation the theory of causality mostly adopted by Venezuelan authors?
>
> **A. It has been adopted repeatedly by Venezuelan courts**.
>
> **Q.** By courts and authors; right?
>
> **A. It has been accepted by Venezuelan courts and Venezuelan authors**, such as probably the two most recognized, Professor Mélich-Orsini and Professor Gert Kummerow used the expression. Professor Kummerow uses

[729] Mata Borjas, **ER II**, § 39; C-PHB, § 397.

> expressions such as "the necessary premise." They use different expressions. One of them is "adequate causation."[730]

485. In light of the above, the Tribunal is satisfied that the standard of causation under Venezuelan law is, as argued by the Respondents, that of adequate causation.

486. Applying this standard to the facts of the present case, the Tribunal is of the view that even assuming the Respondents had played any role in procuring the 2007 Nationalization Decree (which the Tribunal has already concluded they did not), their purported actions were not the adequate, direct or immediate cause of the Claimants' loss. This is because the ultimate power to enact the 2007 Nationalization Decree could only have been exercised by the Government. The Respondents' conduct would in and of itself not have been sufficient to cause the Claimants any loss. This has been acknowledged by the Claimants' expert Prof. Mata Borjas, who confirmed that the Expropriation could only have taken place through the intervention and supervening acts of the Government:

> **Q.** […] My question is: Absent the actions of the President and the National Assembly, could the interests of Claimants have been nationalized?
>
> **A.** No, you needed a specific governmental formality, yes.
>
> **Q.** The actions of the Respondents on their own would have been sufficient to cause the damages claimed by Claimants?
>
> **A.**I would have to--need to think about it, but, in this particular case, it's a joint conduct of Respondents and the Government what was alleged to be the cause
>
> **Q.** No, but I'm asking you to assume on their own, the actions by the Respondents on their own, would that have been sufficient to cause the damage?
>
> **A.** Based on the Expropriation?
>
> **Q.** Yes. We're talking about the Expropriation.
>
> **A.** No, you would need a formality for the Expropriation, you would need a governmental act. That is correct.[731]

487. In the circumstances, even assuming that the Claimants had established all other elements of civil responsibility, the Willful Breach Claims would have failed, as the Respondents have successfully proved that their purported actions were not the legally sufficient cause of the Claimants' losses.

[730] Tr. (Day 7), 1908:8-1911:6 (Prof. Mata Borjas).

[731] Tr. (Day 7), 1913:17-1914:11 (Prof. Mata Borjas).

488. As the remaining arguments (on "disloyal delay") will not materially alter the Tribunal's conclusions, these will not be addressed. The Tribunal does note however, that its conclusions in respect of the Willful Breach Claims are fortified by the Claimants' conduct from the date of the first alleged breach in 2004 (the Royalty Measure) till the actual commencement of the arbitration in 2014. As the Claimants have admitted, through an entire decade – from 2004 to 2014 – they simply assumed that the Respondents were aware of the fact that contractual obligations had been breached. No doubt the Respondents were aware that the Claimants objected to the qualified measures and the Expropriation. However, complaining about these measures does not automatically indicate that there have also been contractual breaches, much less of the specific provisions that the Claimants ultimately came to rely on in their SoC.

489. This is compounded by the fact that the scope of the Willful Breach Claims has been constantly changing. In their Request for Arbitration, the Willful Breach Claims were only based on the "duty of good faith" under Venezuelan law. Then in the SoC, the Claimants put together some provisions of the AAs which could support their claim. Importantly though, they did not claim damages for the effects of the Royalty Measure and the Extraction Tax. Nor did they argue that non-performance of the AAs was itself a breach. This last argument only took shape at the Hearing and was finally made in their post-hearing submissions. The Tribunal can only infer from the growth story of the Willful Breach Claims, that the Claimants themselves were not confident of its persuasiveness and were building on it as the proceedings progressed. For these additional reasons, the Tribunal finds little difficulty in dismissing the Willful Breach Claims in their entirety.

490. The Tribunal therefore concludes that (i) regardless of whether this relates to the element of fault or to the element of causation in the civil liability test, in order to escape liability, the burden lies with the Respondents to prove that the 2007 Nationalization Decree is a "non-attributable external cause"; (ii) the Respondents have proved that the 2007 Nationalization Decree is not attributable and is external to them as a matter of fact; and (iii) even assuming that the Respondents played a role in procuring the 2007 Nationalization Decree, it would not satisfy the test for causation under Venezuelan law and thus not be the legally sufficient cause of the Claimants' alleged losses.

4. Conclusion

491. In light of the aforementioned analysis, the Tribunal has come to the following conclusions regarding the Willful Breach Claims:

i. The Willful Breach Claims are arbitrable in light of the fact that they are pertaining to purported breaches of the Respondents' contractual obligations arising out of the AAs which are commercial contracts, as opposed to the mere implementation of the 2007 Nationalization Decree.

ii. In order to establish the Respondents' liability for willful breach, the following elements of the civil liability test under Venezuelan law must be satisfied, namely (i) the existence of an obligation; (ii) breach of the obligation; (iii) fault and its non-preclusion by an external non-attributable cause; (iv) damages; and (v) existence of a causal link between the purported breaches and the resulting damage.

iii. As regards the First Willful Breach Claim concerning the Respondents' obligation to exercise "reasonable commercial efforts", the Tribunal finds that such an obligation exists under the Petrozuata AA. In that regard, Section 9.01(b) of the Petrozuata AA obligated the Respondents to exercise "reasonable commercial efforts" in order to ensure the success of the Petrozuata Project and to refrain from any conduct that would hinder the functioning of the Petrozuata Project. Under Venezuelan law, such an obligation is classified as an "obligation of means", meaning that it does not require the achievement of a specific result, but rather an exercise of due diligence and care in an effort to achieve the desired result. Furthermore, it is for the Claimants to prove that such due diligence and care has not been exercised by the Respondents, thus constituting a breach of their obligation.

iv. Correspondingly, the Tribunal finds that no "reasonable commercial efforts" obligation exists under the Hamaca AA. In particular, the Tribunal concludes that the language of Articles 10.4(a) and 10.5(a) of the Hamaca AA is not broad enough to include an obligation on the part of the Respondents to "lobby" the Government in order to retain the application of the most favorable fiscal regime for the Parties and the Projects.

v. The Tribunal further concludes that the Claimants have failed to prove that the Respondents did not exercise "reasonable commercial efforts" as required

under the Petrozuata AA. In this respect, the Tribunal considers that the "dual hats" worn by Mr. Ramírez and Dr. Mommer do not automatically result in a situation where their acts as Ministers of the Government also constituted actions of PDVSA. Moreover, the position of these individuals in PDVSA did not give them any special powers to bring about the Overall Expropriation. Even if Mr. Ramírez and Dr. Mommer had not held such positions in PDVSA, the Government would have nevertheless remained empowered to enact the various qualified measures and PDVSA would have remained obligated to implement such measures pursuant to its Articles of Incorporation and By-laws.

vi. Accordingly, in relation to the First Willful Breach Claim the Tribunal concludes that an obligation to exercise reasonable commercial efforts exists under the Petrozuata AA, but not under the Hamaca AA. However, the Tribunal also finds that the Claimants have failed to prove the breach of this reasonable commercial efforts obligation.

vii. As regards the Second Willful Breach Claim – alleging that the Respondents failed to perform the AAs "during 2007" – the Tribunal finds that an obligation of performance of contractual obligation *per se* exists under Article 1271 of the VCC, such that non-performance amounts to a breach. Moreover, under Venezuelan law, an obligation of performance is characterized as an "obligation of result", such that non-performance creates a presumption of liability (in contrast to an obligation of means, where liability needs to be proved).

viii. However, the Tribunal finds that the Claimants fall short of proving the entire extent of their Second Willful Breach Claim, in that the Claimants have only successfully proven non-performance of the AAs from the date of the Expropriation i.e. from 1 May 2007, and not any period prior thereto. In other words, the Claimants' allegation that the Respondents stopped performing the AA's "during 2007" is too broad.

ix. Accordingly, in relation to the Second Willful Breach Claim, the Tribunal concludes that an obligation to perform the AAs exists under Venezuelan law (i.e. element (i) of the civil liability test), and the Claimants have proven the breach of such obligation by the Respondents, but only from the date of the Expropriation (element (ii) of the civil liability test).

x. Furthermore, even though the Respondents have breached their obligation to perform the AAs, the Tribunal finds that their liability is precluded for the following reasons. First, the Respondents were acting pursuant to the 2007 Nationalization Decree. This Decree is a non-attributable external cause. Accordingly, the Respondents were acting in compliance with the law and their fault is precluded. Second, even assuming the Respondents were involved in "procuring" the 2007 Nationalization Decree, the Respondents' actions do not satisfy the legal standard for causation under Venezuelan law which requires the Claimants to show that the Respondents' actions were the "adequate cause" of the losses sustained. Under Venezuelan law it is the enactment of the various qualified measures by the Government that constitutes the legally sufficient cause of the Claimants' loss.

xi. In sum the Tribunal concludes that the Respondents are not liable for willfully breaching the AAs and the Willful Breach Claims are accordingly dismissed.

D. *HECHO ILÍCITO*

492. In the alternative, the Claimants argue that the Respondents' willful destruction of the AAs also attracts liability under the principle of *hecho ilícito* enshrined in Article 1185 of the VCC. Article 1185 of the VCC reads:

> Whoever intentionally, negligently or recklessly, has caused damage to another has the obligation to repair it. Similarly, a party who has caused someone else damage, surpassing in the exercise of his rights the limits established by good faith, or by the object in light of which that right has been granted, is equally bound to repair it.[732]

493. In light of the above, the Claimants reiterate the sequence of events leading up to their dispossession and to the destruction of the AAs. Accordingly, they argue that all four elements constitutive of an *hecho ilícito* requiring reparation (i.e. existence of fault, damage, liability to indemnify, and causation) have been satisfied in the case at hand.[733]

494. The Respondents' response is three-fold and runs as follows: (i) as a matter of Venezuelan law, the Claimants cannot assert *hecho ilícito* alongside their contractual

[732] VCC, **CER-1**, Article 1185.

[733] C-PHB, § 455; *supra*, § 257.

claim for Willful Breach; (ii) compliance with law cannot constitute tortious conduct; and (iii) the Claimants do not satisfy the element of causation for *hecho ilícito*.[734]

495. The Tribunal considers that the Parties' submissions regarding the Respondents' first contention (i.e. that in the present case the AAs preclude a finding of extra-contractual responsibility) are entirely dispositive of the issue in favor of the Respondents. Therefore, it is unnecessary for the Tribunal to assess the Parties' remaining submissions on the Respondents' second and third contentions.

496. According to the Claimants' legal expert, Prof. Mata Borjas, there is no rule under Venezuelan Law preventing a plaintiff from making a claim on grounds of contractual liability and, in the alternative, on grounds of extra-contractual liability. This is so given that Article 1185 VCC "establishes the recognized right of the victim to attain relief from the tortfeasor, without any qualification. There is no restriction that the victim cannot be a party to a breached contract or that the wrongdoing must differ from the violation of an agreement".[735] In view of this, the Claimants argue that extra-contractual responsibility for an *hecho ilícito* can arise despite the existence of a contractual relationship between a plaintiff and a defendant. For the purposes of both contractual and extra contractual responsibility, this remains the case irrespective of whether the questionable "conduct" is the "same" in both scenarios.[736]

497. The Claimants refer to a number of decisions rendered by Venezuelan courts in support of their position.[737] Indeed, this case law suggests that, under Venezuelan law, a claim for extra-contractual responsibility can be admissible despite the existence of a contractual relationship between the disputing parties. However, this aspect is not controversial.

498. It is not the Respondent's position that the mere existence of a contract between two parties *de jure* precludes either of them from advancing an extra-contractual claim (either directly or alternatively) against the other. Rather, in the Respondents' submission, the issue is whether, despite the existence of a contract binding both parties, the specific elements of extra-contractual responsibility for an *hecho ilícito* are properly ascertained. In this respect, the Tribunal agrees with the Respondents that

---

[734] R-PHB, §§ 429-436, SoD, §§ 250-271; Rejoinder, §§ 260-286.

[735] Mata Borjas ER I, § 80.

[736] C-PHB, § 456.

[737] C-PHB, fn. 804; *Petra Peña v. FICS de Venezuela* [2010], **CLA-40**, pp. 17-18; *Kassen v. Banco Consolidado, C.A.* [1990], **CLA-38/CMB-16**, p. 39; *Palazzi v. Clínica El Ávila* [2012], **CMB-13**, p. 115; *María del Socorro Prato v. Seguros de Venezuela* [1988], **CMB-14**, p. 28; *Edgar Parra v. Avensa* [1994], **CMB-15**, p. 514.

this can only occur if the following two requirements are met: (i) the action taken by one of the parties involves a violation of a "legal duty independent" from the contract at hand; and (ii) the damage caused by said action results in the loss of a "patrimonial or moral benefit distinct from those guaranteed by the contract".[738]

499. As explained by the Respondents' legal expert,[739] Prof. García Montoya, in recent cases the Venezuelan Supreme Court has consistently found the two above criteria to be decisive in assessing whether a claim for extra-contractual responsibility may arise in spite of the existence of a contract between the disputing parties.[740] In fact, as will be further discussed below, the judicial decisions referred to by the Claimants follow the same view.[741]

500. As argued by the Claimants, in *Petra Peña* the Supreme Court held that, in instances of a "wrongful act", there is "a possibility for the claim of both types of contractual and non-contractual liability" to be "borne of the same legal relationship of the parties [i.e. a contract]".[742] However, the Claimants appear to have disregarded the Supreme Court's eventual finding, by which the identified "wrongful act" stemmed from a distinct and "demonstrated" case of "fraud".[743]

501. Similarly, the Supreme Court in *Palazzi* allowed for both contractual and extra-contractual claims pursuant to allegations of contractual willful misconduct.[744] In particular, the Supreme Court affirmed that, when the harmful act results from criminal behavior or from intentional misconduct, negligence or recklessness, a victim has the possibility of opting between a contractual and a tortious cause of action.[745] That being said, the Supreme Court conditioned its finding by stating that a party is entitled to such choice only when the harmful act pertains to "circumstances of extraordinary occurrence" and not from the "mere breach of contractual provisions", concluding that, "in principle, the scopes of contractual and criminal responsibility are

[738] SoD, § 258.

[739] García Montoya ER I, **RER-1,** § 96.

[740] *Oficina Técnica de Construcciones C.A. v. Banco Unión S.A.C.A. and Banco Hipotecario Unido S.A.* [2002], **GM-72**, **31**, **34**; *Juan Pedro Pereira Meléndez v. Christian Herman Klager Bischoef and Gerhardt Otto Klaeger Ritter* [2004], **GM-73**, pp. 12-14; *Hyundai de Venezuela, C.A. v. Hyundai Motor Company* [2011], **GM-74**, p. 41-44; *Elida Gutiérrez de Rodríguez v. Servicios de Bienes Raíces Cima, C.A. and Inversora Caraballeda, C.A.* [2012], **GM-75**, pp. 25-30.

[741] *Supra,* fn. 737

[742] C-PHB, fn. 804, referring to *Petra Peña v. FICS de Venezuela* [2010], **CLA-40**, p. 17-18.

[743] *Petra Peña v. FICS de Venezuela* [2010], **CLA-40**, p. 17

[744] Mata Borjas ER I, fn. 61.

[745] *Palazzi v. Clínica El Ávila* [2012], **CMB-13**, p. 115.

mutually exclusive".[746] In this regard, it should be underlined that *Palazzi* concerned moral damages suffered by the plaintiff as a result of admitted gross negligence: negligence that was deemed sufficient to support criminal liability for manslaughter.[747]

502. The remaining court rulings referenced by the Claimants fare no differently. First, as explained by Prof. García Montoya (and in line with the Supreme Court's findings in *Pallazi*), the discussion on tortious claims *vis-à-vis* contractual responsibility in both *Prato* and *Parra* took place in the context of moral damages due to non-contractual breaches.[748]

503. Second, while in *Kassen* the High Court of Miranda determined that a contractual relationship between the parties could not prevent the occurrence of an *hecho ilícito*, such statement was not made in a void.[749] In that case, the High Court clarified that: (i) an "*hecho ilícito* may well be borne collaterally out of the abusive application of a specific clause"; and (ii) in order to conclude that a contractual provision had been abusively applied, its application was required to fall "outside of the limits imposed by the peaceful contractual good faith, meaning, outside the terms established by Article 1160 of the Venezuelan Civil Code".[750]

504. It is noteworthy that the threshold determined in *Kassen* had already been adopted by the Supreme Court in *Prato* years before.[751] Still, the High Court went on to elaborate that, under Venezuelan law, the abuse of rights is "typically" a "non-contractual conduct that gives rise to a compensation different from the compensation foreseen in or foreseeable under the contract".[752]

505. Overall, the legal authorities relied upon by the Claimants militate against their position. In all cases, the possibility of bringing an extra-contractual claim, either in tandem or alternatively to a contractual claim, was essentially assessed against the two criteria already identified above: (i) whether the breached obligation or implied

---

[746] *Palazzi v. Clínica El Ávila* [2012], **CMB-13**, p. 115 (translation by the Tribunal).

[747] *Palazzi v. Clínica El Ávila* [2012], **CMB-13**, pp. 58-59, 63, 114 (translation by the Tribunal).

[748] García Montoya ER I, **RER-1,** fn. 109 (and the sources referenced therein).

[749] *Kassen v. Banco Consolidado, C.A.* [1990], **CLA-38** [or **CMB**-16], p. 39.

[750] *Kassen v. Banco Consolidado, C.A.* [1990], **CLA-38** [or **CMB**-16], p. 39.

[751] *María del Socorro Prato v. Seguros de Venezuela* [1988], **CMB**-14, p. 28 ("*La presencia de una relación contractual entre las partes no impide que la ocurrencia de un hecho ilícito genere una indemnización derivada del mismo. Este hecho ilícito bien puede nacer colateralmente de la aplicación abusiva de una determinada cláusula, fuera de los límites impuestos por la buena fe contractual específica del caso, es decir, fuera de los términos previstos por el artículo 1.160 del Código Civil*").

[752] *Kassen v. Banco Consolidado, C.A.* [1990], **CLA-38** [or **CMB**-16], p. 40.

duty (including contractual good faith, as both authors referred to above say) was independent from or in excess of the scope of the contract concluded between the disputing parties; or (ii) whether the damage caused by such breach resulted in a loss not guaranteed by the contract in question.

506. In light of the above, the Tribunal finds that, pursuant to Venezuelan law, the Claimants must cumulatively satisfy both of the foregoing requirements in order to succeed on their *Hecho Ilícito* claim. In the Tribunal's view the Claimants have failed to meet such a standard.

507. The Claimants' positions for Willful Breach and *Hecho Ilícito* are, for all material and legally relevant purposes, identical. No substantive differentiation is made in terms of the circumstances that, according to the Claimants, arguably give rise to the Respondents' contractual responsibility under their Willful Breach Claims, or to extra-contractual responsibility under their *Hecho Ilícito* claim.

508. Indeed, the Claimants submit that the elements necessary to establish liability under Article 1185 of the VCC are comprised of factual, legal, or quantum considerations to some extent shared with their Willful Breach Claims. For instance, with regard to the element of fault (which both Party experts agree implies a "wrongdoing" or an action "contrary to the law),[753] the Claimants specifically refer to their arguments on the Respondents' alleged willful breaches of the AAs.[754] With respect to the element of causation, the Claimants argue that it is complied with for the same reasons as in the context of their Willful Breach claim.[755] As to damages, the Claimants once more deal with the losses allegedly suffered either contractually or extra-contractually, jointly.[756]

509. Put simply, the Tribunal is of the view that the Claimants have failed to ascertain a duty allegedly breached by the Respondents which would be different from the obligations required by the AAs. The Claimants submit that the Respondents breached their obligation to perform the AAs in good faith in accordance with Article 1160 of the VCC.[757] However, as seen, in both *Kassen* and *Prato* it was required that, for a parallel or alternative extra-contractual claim to succeed, the victim must identify a wrongful act exceeding the scope of implied contractual obligations (i.e. the

[753] Mata Borjas ER I, § 75; García Montoya ER I, §§ 92-93.

[754] C-PHB, § 455(a).

[755] C-PHB, fn. 802.

[756] C-PHB, §§ 455(b), 466, 513, 1027(g), 1027(n).

[757] *Supra,* §§ 341.

contractual good faith mandated by Article 1160 of the VCC).[758] The Claimants have not met such requirement.

510. Assuming *arguendo* that the Claimants did point to a legal duty breached by the Respondents concomitant to or preceding the Expropriation, the Claimants have nevertheless failed to prove that the alleged damage resulting thereof is not guaranteed by the AAs. In other words, all of the Claimants' alleged damages are limited to the loss of rights or advantages arising under the AAs. In fact, the Claimants request that the Tribunal declare the Respondents' "integral role in destroying the Claimant's contractual rights" capable of constituting an *hecho ilícito,* warranting full reparation under Venezuelan law.[759] No moral or distinct harm is claimed for what, *in abstracto*, could be sought by way of the Respondents' alleged contractual liability under the AAs. Thus, in line with *Kassen*,[760] the compensation requested by the Claimants for their *Hecho Ilícito* claim is no different from the compensation foreseen under the AAs pursuant to their Willful Breach claim.

511. Lastly, the Tribunal is aware that, according to the Claimants' expert, Prof. Mata Borjas, "a claimant may indeed concurrently assert contractual and extra-contractual liability where the respondent has engaged in, for example, an 'abuse of rights' […]." The Claimants' legal expert goes on to affirm that, "on the Claimants' case, Respondents' willful destruction of the Claimants' Project Interests would satisfy the standard of 'abuse of rights' under Venezuelan law".[761] Nonetheless, Prof. Mata Borjas' observation is untenable for the following reasons.

512. First, the Claimants have not made such an explicit submission on 'abuse of rights' in either their oral or written pleadings in the context of their Willful Breach claim. Second, the opinion of Prof. Mata Borjas is unsubstantiated. The expert fails to make any references to Venezuelan law equating the notion of willful breach with the 'abuse of rights' doctrine. Third, neither Prof. Mata Borjas nor the Claimants have identified a legal right held by the Respondents whose exercise must be deemed an abuse. Fourth, the Claimants have in any event failed to substantiate how the damages resulting from such an alleged 'abuse of rights' (assuming it were to exist) could give rise to losses not guaranteed or recoverable through the AAs themselves.

758 *Supra,* §§ 503-504.

759 C-PHB, § 1027(g).

760 *Supra,* § 504.

761 Mata Borjas ER II, § 52.

513. For the reasons set out above, the Tribunal dismisses the Claimants' claim for the Respondents' extra-contractual responsibility for the occurrence of an *hecho ilícito*, in its entirety.

E. THE COUNTERCLAIM

514. Respondent Corpoguanipa[762] has raised a counterclaim under the Hamaca AA for a declaration that, in the event it is found liable for DAs under the Hamaca AA it will be entitled to exercise the option provided under the Hamaca AA, to purchase Claimant Phillips' rights and interests in the Hamaca Project. The Claimants dispute both the legality of the counterclaim and the method adopted by the Respondents for its valuation. The Tribunal therefore proposes to first examine Parties' arguments on the legality of the counterclaim, and only in the event it is upheld, will the Tribunal examine the arguments on valuation.

1. The Respondents' position

515. The Respondents contend that pursuant to Articles 14.4 and 14.5 of the Hamaca AA, they are entitled to purchase or "buy-out" the Claimants' "Project Interests"[763] in the Hamaca Project as an alternative to paying compensation for DAs pursuant to an award made in the Claimants' favour[764] (Articles 14.4 and 14.5 are hereinafter collectively referred to as the "Buy-Out Provisions" and the option to purchase the Claimants' interest is hereinafter referred to as the "Buy Out Option".). The Respondents submit that "Project Interest" as defined in the Hamaca AA is not restricted to the Claimants' shareholding in the Hamaca Project, but extends to all "rights, titles, interests and obligations" relating thereto. As such, they contend that the definition is broad enough to permit them to acquire the Claimants' "claim for compensation" made in the present arbitration.[765]

516. In support of the above interpretation, the Respondents rely on the negotiating history of the Hamaca AA[766] and more particularly the HCA which stipulates that remedies

---

[762] **All references to "Respondents" in this part of the Award dealing with the counterclaim shall be understood to mean Respondent Corpoguanipa. Similarly, all references to "Claimants" shall be understood to mean Claimant Phillips.**

[763] Hamaca AA, **C-3**, Article 1. Project Interest is defined at Article 1 of the Hamaca AA (*infra,* § 526).

[764] *See* SoD, §§ 325-334; Rejoinder, §§ 364-371. *See* also Terms of Reference, § 40 (Respondents' arguments). Articles 14.4 and 14.5 of the Hamaca AA are set out at §§ 525-529 *infra*. There is no buy-out or related provision in the Petrozuata AA, and thus this issue relates only to the Hamaca AA.

[765] Rejoinder, § 370.

[766] April 1996 Corpoven Presentation, **R-97**, p.18; Hamaca Preliminary Term Sheet, **C-41**, pp. 21-22; Letter from ARCO to Corpoven, May 29 1996, **R-101**, p.1.

for DAs in the form of either compensation or amendments to the provisions of the Hamaca AA would be "without prejudice to the option for [Respondents], according to the provisions of the Association Agreement, to purchase such participation of the [Claimants] on equitable conditions".[767]

517. Countering the Claimants' contentions that the Buy-Out Option apply only in case of DAs pursuant to which the Hamaca Project remains a going concern (and not a case like the present, where the Hamaca Project has been expropriated and there is nothing left to "buy-out"), the Respondents submit that there is no basis for drawing such a distinction in the text of the Buy-Out Provisions. Given that the definition of a DA in the Hamaca AA expressly includes "expropriation of the assets of, or a Party's interest in, the Association or Association Entities", in the Respondents' view the Claimants' argument is unsustainable.[768] Accordingly, the Respondents submit that they are entitled to buy out the Claimants' interests in the Hamaca Project – i.e. any potential award of compensation obtained in this arbitration – in the event an award of compensation is made in the Claimants' favour.

2. The Claimants' position

518. In response, the Claimants argue that "[t]he Counter-Claim is no more than an opportunistic afterthought by the Respondents, and should be dismissed as such."[769] They submit first that the Buy-Out Provisions are not relevant to the Willful Breach Claims because the Respondents' liability for willful breach is governed by Venezuelan contract law and not Article 14 of the Hamaca AA; and second, that it cannot be invoked in respect of the DA Claims because there is nothing left to "buy-out". As the Tribunal has dismissed the Willful Breach Claims and upheld the DA Claims, only the arguments pertaining to the latter will be considered.

519. The Claimants argue that the text and structure of the Buy-Out Provisions leaves no doubt that the Buy-Out Option was intended to apply only in a situation where the Hamaca Project remained a going concern and not, as is the instant case, where the Claimants' interest in the Project has been expropriated over 10 years ago and there is nothing left to "buy out".

---

[767] Hamaca Congressional Authorization, **R-11**, Twenty First Condition; SoD, § 327; Rejoinder, § 364.

[768] SoD, § 332.

[769] C-PHB, § 465.

520. Drawing the Tribunal's attention to various clauses in Article 14.4 and 14.5[770], the Claimants submit that these provisions were structured in a specific way. *First* they envisaged multiple opportunities for the Parties to agree upon amendments to the terms of the Hamaca AA in the event of a DA. *Secondly,* they contemplated the possibility for the Claimants to maintain the AAs and their interests therein, by relinquishing their DA claim *before* the Buy-Out Provisions were triggered. According to the Claimants all of these provisions would be rendered meaningless if, as the Respondents claim, the Buy-Out Option could also operate after an Expropriation.[771]

521. The Claimants also argue that the Respondents' attempt to buy out the Claimants' claim for compensation contradicts the framework and structure of the Buy-Out Provisions, which envisage the option to *either* pay damages *or* to purchase the Claimants' Project Interest and not both. According to the Claimants, the Respondents are attempting to "compel a forced sale of [Claimants'] interest in the Hamaca Project years after the expropriation of that interest […] and [to permit the Respondents to do so] would produce an absurd and highly inequitable result that ignores the plain terms of the AA".[772]

3. Relevant provisions of the Hamaca AA

522. In their submissions, both Parties have emphasized the text of the Buy-Out Provisions.[773] Accordingly, the Tribunal shall first set out the relevant provisions which are at issue in the counterclaim, namely Articles 14.4 and 14.5 of the Hamaca AA.

523. As elaborated above,[774] in the event the Parties agree that a DA resulting in MAE has occurred, then pursuant to Articles 14.1(a) and 14.3(c), the Parties are required to enter into good faith negotiations regarding suitable amendments to the terms of the Hamaca AA, that would compensate the Claimants for the damages they have suffered as a result of the DAs.[775]

---

770 The Tribunal shall set out these clauses to the extent necessary in its analysis.

771 Reply, §§ 254-260; C-PHB, §§ 473, 477-478.

772 C-PHB, § 486.

773 SoD, §§ 326, 332; Rejoinder, § 368; Reply, § 250.

774 *Supra*, § 109.

775 Hamaca AA, **C-3**, Article 14.1(a) ("[I]n the event that any Foreign Party shall be an Affected Party [i.e., a Party that suffers a MAE due to a DA], the Parties will enter into good faith negotiations regarding amendments to the terms of this Agreement and the Related Agreements (the "Amendments") that would compensate the Affected Party, on the terms and conditions set forth in this Article XIV, for the Damages […] suffered by it as a result of the Discriminatory Actions."); 14.3(c) (Upon delivery of a Notice of Triggering Event by the Claimant to Corpoguanipa, Corpoguanipa and the Claimant are required to enter into negotiations with the objective of determining whether

524. The Buy-Out Provisions come into play in the event the Parties are unable to agree that a DA resulting in MAE has occurred *or* in the event that they are unable to agree upon amendments to the Hamaca AA. In such a situation, Articles 14.4(a) and (b) enable the Parties to enter into a two phased arbitration, wherein in the first phase, the arbitral tribunal will determine if a DA resulting in a MAE has occurred, and if so, the consequent damages suffered by the Claimants.[776] If a DA resulting in MAE has occurred, then in the second phase, the Parties can also seek the determination of a "Buy-Out Price" for purchasing the Claimants' "Project Interest". The provisions to the extent relevant, are set out below:

> (a) In the event that [Corpoguanipa] and the [Claimants] do not come to full agreement on whether Discriminatory Actions resulting in a Material Adverse Effect have occurred, or the Parties do not come to full agreement on the Amendments, within six (6) months of delivery of a Notice of Triggering Event, [Corpoguanipa], or the [Claimants] shall be entitled to commence arbitration proceedings in accordance with Section 17.2. The arbitration proceedings shall be bifurcated, with the panel *first considering whether the [Claimants] had suffered a Material Adverse Effect as a result of one or more Discriminatory Actions in the relevant fiscal years, and, if the answer is affirmative, determining the […] Damages […].*
>
> (b) In the event that it is agreed or determined that one or more Discriminatory Actions resulting in a Material Adverse Effect have occurred and that the [Claimants] [are] thus an Affected Party, in a second stage of the same proceedings the arbitral panel shall determine the "Buy-Out Price" […]. During the second stage of the arbitration proceedings, the Parties shall continue (or commence) negotiations regarding the Amendments.[777]

525. Article 14.4(c) defines what the "By-Out Price" shall be depending upon the stage of development of the Hamaca Project. In the instant case, the Parties agree that the definition of "Buy-Out Price" in Article 14.4(c)(B)[778] is applicable, which states in relevant part that:

---

they agree that a DA resulting in MAE has occurred. "If [Corpoguanipa] and the [Claimants] agree that a Discriminatory Action resulting in a Material Adverse Effect has occurred, and that the [Claimants are] thus an Affected Party, the Parties shall enter into good faith negotiations regarding the Amendments; provided that the Amendments shall not result in a cost to Corpoven Sub exceeding the Damages actually suffered by the [Claimants]…").

[776] Hamaca AA, **C-3**, Article 14.3(d) ("The 'Damages' of an Affected Party [i.e. Claimants] shall be equal to the amount in Dollars needed for the Affected Party to attain one hundred percent (100%) of the Reference Net Cash Flow that the Affected Party would have attained in the relevant Fiscal Years has the Discriminatory Action not occurred, plus interest thereon at LIBOR from the date Damages are incurred until the date the Damages are determined in accordance with Section 14.4(a). The calculation of such amount shall be increased to take into account Venezuelan taxes such that the Affected Party receives the full amount of the Reference Net Cash Flow after such Venezuelan taxes.")

[777] Hamaca AA, **C-3**, Article 14.4(a) and (b).

[778] C-PHB, § 482; Rejoinder, § 369; R-PHB, § 230. The Tribunal notes that the Parties differ on the question of whether pursuant to this provision, the Buy-Out Price is capped in the same manner as compensation payable for a DA. The Tribunal will address that issue, if necessary, once it has concluded whether the Counterclaim stands or falls.

> […] the Buy-Out Price shall be equal to the commercial value (without taking into account the effect of the Discriminatory Actions but taking into account the provisions of this Article XIV in respect of the Threshold Cash Flow) of the Affected Party's Project Interest.[779]

526. The term "Project Interest" is defined as follows:

> "Project Interest" shall mean, (i) […] in respect of Phillips, 20%, or; (ii) with respect to any Party, such Party's undivided *direct or indirect percentage interest in the Association*, the direct or indirect interest held by such Party in each Association Entity (as defined in Section 4.10), *and all rights, title, interests and obligations attaching thereto, including, without limitation, the Party's rights under this Agreement* and all rights and interests in the Initial Upgrader, the Second Upgrader and all other assets jointly owned by two or more of the Parties and all contracts and leases jointly entered into by or on behalf of the Parties in connection with the Project activities, in each case as the same may vary from time to time.[780]

527. Article 14.4(b) finally stipulates that "the Parties shall continue (or commence) negotiations regarding the Amendments"[781] even during the second phase of the arbitration.

528. Article 14.5 then addresses the consequences of the Parties not reaching an agreement regarding potential amendments to the Hamaca AA and the arbitral panel delivering its decision on the "Buy-Out Price" in the meantime, providing in relevant part as follows:

> (a) In the event that the Parties have *not previously agreed on the Amendments*, upon receipt of an arbitral award relating to the Buy-Out Price, the [Claimants], within thirty (30) days, shall notify [Corpoguanipa] of whether it elects to withdraw or maintain its claim for compensation. If [it] does not withdraw its claim, [Corpoguanipa], within thirty (30) days of receipt of the Affected Party's notice, shall ***either***:
>
> (1) ***pay the Affected Party's Damages*** […] for the relevant Fiscal Years out of [Corpoguanipa]'s net cash flow from the Project (with interest accruing on any amount of Damages determined to be owing, but not paid, in any year at a rate equal to LIBOR plus 2%); provided that in the event any Affected Party accumulates unpaid Damages in excess of the Affected Party's Project Interest of $75,000,000, or in the event that such Affected Party has accrued Damages outstanding for a period in excess of three hundred and sixty-five (365) days, all accrued but unpaid Damages of such Affected Party shall be promptly paid by [Corpoguanipa] or PDVSA in its capacity as guarantor, in each case out of their general corporate funds or otherwise; ***or***
>
> (2) ***purchase the Affected Party's Project Interest at the Buy-Out Price,*** […]; or

[779] Hamaca AA, **C-3**, Article 14.4(c).

[780] Hamaca AA, **C-3**, Article 1 (emphasis added).

[781] Hamaca AA, **C-3**, Article 14.4(b).

(3) have the Parties continue to negotiate the Amendments, in which event, if the Parties have not agreed upon the necessary Amendments within three (3) months of the Affected Party's notice to [Corpoguanipa], the Affected Party shall be entitled to give notice to [Corpoguanipa] of its decision to terminate such negotiations and upon receipt of such notice [Corpoguanipa], within ten (10) Business Days, shall elect to either pay Damages or purchase the Affected Party's Project Interest at the Buy-Out Price, on the terms set forth in (1) or (2) above, as applicable.[782]

529. Article 14.5(b) to (d) addresses aspects of interest payment, tax benefits and the implications of the Respondents' participation in the Hamaca Project reducing below 25%. As such, the Tribunal does not consider them germane to the discussion on the legality of exercising the Buy-Out Option.

4. Analysis

530. In light of the Parties' arguments the crux of the dispute is whether the Buy-Out Provisions are compatible with and can be invoked in case of an Expropriation.

531. At first blush, the Tribunal notes that the definition of DA in the Hamaca AA[783] – which expressly includes expropriation – and the text of the Buy-Out Provisions read together, appear to suggest that the Buy-Out Option can be invoked in case of Expropriation. However, the Tribunal finds merit in the Claimants' argument that reading the Buy-Out Provisions in this manner would render parts of these Provisions dead letter or self-contradictory. Therefore, the Tribunal considers that in order to determine the true scope of application of these Provisions they must be construed as a whole.

532. In that regard, as the Claimants rightly point out, the primary (and preferred) solution envisaged in the event a DA results in MAE, is amendments to the Hamaca AA *in lieu* of the damages suffered by the Claimants. Moreover, the Buy-Out Provisions repeatedly envisage opportunities for the Parties to agree on such amendments. In particular:

- Article 14.3(c) provides that if the Claimants consider that they have suffered MAE pursuant to the DA and the Respondents agree with such characterization, the Parties are required to enter into good faith negotiations with the objective of

[782] Hamaca AA, **C-3**, Article 14.5(a) (emphasis added).

[783] Hamaca AA, **C-3**, Article 14.1(b)

reaching an agreement on the amendments that can be made to the Hamaca AA;[784]

- Article 14.4(b) provides that the Parties can continue their negotiations or even commence fresh negotiations regarding the Amendments, regardless of having commenced arbitration to determine the Buy-Out Price;

- Article 14.5(a) restricts payment of damages or the Buy-Out Option to cases where the Parties have not previously agreed on Amendments; and

- Article 14.5(a)(3) provides that even after the Buy-Out Price has been determined and the Claimants have decided not to withdraw their claim for compensation, the Parties may make one last attempt to negotiate amendments to the Hamaca AA.[785]

533. In the Tribunal's opinion, it stands to reason that the foremost objective of the above provisions was to keep the Hamaca AA and the Parties' relationship alive to the extent possible, or as the Claimants eloquently describe:

> while the Contracting Parties [were] negotiating a revision to their ongoing Association Agreement to compensate for the effect of a Discriminatory Action and save their commercial marriage, if they can, a Buy-Out Price [was to be] identified that could lead to a future amicable divorce.[786]

534. In the circumstances, it is inconceivable that the Buy-Out Option could also be applicable in a situation where the Claimants had been dispossessed of the Hamaca Project and the Hamaca AA terminated, leaving no contractual relationship to salvage through suitable amendments.[787] Given the tenor of the above requirements, the Tribunal finds that there is a significant chink in the Respondents' counterclaim.

535. The Tribunal notes that the Respondents give some importance to the fact that two of the Claimants' witnesses, Mr. Manning and Mr. Heinrich, appeared to accept that the Buy-Out Option could be triggered by any DA during the Hearing.[788] However, the

---

[784] As argued elsewhere, the Claimants are required to inform the Respondents that they consider themselves to have been affected by a DA resulting in MAE by issuing a Notice of Triggering Event (*Supra,* §§ 238-240). It is if the Respondents' agree to such characterization that the obligation to enter into good faith negotiations regarding amendments to the Hamaca AA kicks in. However, in the instant case, the objective of issuing such a Notice was rendered nugatory by virtue of the fact that the Hamaca AA had been terminated and no "amendments" to the same could be negotiated.

[785] Reply, §§ 255-256.

[786] Tr. (Day 1), 66:4-12 (Claimants' Opening Statement).

[787] C-PHB, § 485.

[788] Tr. (Day 2), 425:3-426:6 (Mr. Manning); Tr.(Day 3), 676: 5-20 (Mr. Heinrich).

Tribunal is far from convinced by the spin that the Respondents seek to put on their testimony. Mr. Manning expressed his hesitation to apply the Buy-Out Provisions in an expropriation scenario[789] and in response to questions from the Tribunal, Mr. Heinrich clarified that he only referred to the Hamaca AA in his capacity and to the extent necessary as a member of the Board of Directors of the Hamaca JVC.[790]

536. That apart, the Respondents' counterclaim would contradict the framework and mechansim of the Buy-Out Option, as more particularly discussed below.

537. Article 14.5(a) contemplates that once the Claimants have decided not to withdraw their claim for compensation, the Respondents can do one of two things: ***either*** "pay the Affected Party's [i.e. the Claimants] damages"; ***or,*** "purchase the Affected Party's [i.e. the Claimants] Project Interest at the Buy-Out Price". It is clear from the use of "either […] or" in this provision that these two options must be exercised *in the alternative* and not in conjunction. That is to say, the Respondents may only exercise the right to buy-out or purchase the Claimants' Project Interest, if they have elected to not pay compensation for losses caused due to a DA. Either the Respondents can compensate the Claimants for the losses sufferred (i.e. a one way transaction from the Respondents to the Claimants) or, the Respondents can retain the damages and instead purchase the Claimants' Project Interests at the Buy-Out Price (i.e. a two way transaction involving an "exchange of property").

538. The Respondents seek to conflate both of these options in their Counterclaim. Their claim is that they are "entitled to acquire [the Claimants' claim for compensation] at the buy-out price."[791] In support of this argument, they rely on the allegedly broad definition of "Project Interests" in the Hamaca AA, which covers "all rights, titles, interests, and obligations associated with" the Claimants percentage interests in the

[789] Tr. (Day 2), 425:3-426:6 (Mr. Manning).

[790] Tr. (Day 2), 678:4-679:12 (**PRESIDENT LÉVY:** […] I meant from 1995-odd until 2007 so, a whole period, and I know you may not remember. I was asking if you ever needed personally to go into that contract or have it explained for some clauses because it was necessary for the operation. **THE WITNESS [Mr. Heinrich]**: For the operation standpoint, no, but, from the--my understanding of the provisions, particularly in the Discrimination Clause, I did go through and review at the time. **PRESIDENT LÉVY:** Yeah, but, when you referred earlier to modeling, to requesting information about the Contract, or operation of finances, generally speaking, why did you need to use the Hamaca Contract? […] **THE WITNESS:** It was not a document I used on a regular basis, but again, to understand the Committee structures, the organization and management, I used it more to understand the overall organization, but it was not a document, particularly after construction was complete and we went into operation, that I needed to go into it in detail. But, occasionally, I would reference things like the decisions of the Board, you know, what were Board decisions versus Committee decisions, to understand what our people involved with different committees needed to be—**PRESIDENT LÉVY:** That's exactly what I mean. So, as a member of the Board, sometimes you needed to refer to the Hamaca Agreement? **THE WITNESS:** Yes.)

[791] Rejoinder, § 264.

Hamaca JVC.[792] The Tribunal sees two related problems with this argument. First, as the Claimants rightly assert, to accept such a reading would bely the very notion of "acquisition" or "exchange of property" that is inherent in a "purchase".[793] Second, going by their present argument, the Respondents appear to be exercising the option to pay as well as to purchase. Rather, they appear to be "purchasing" the very same "compensation" that they are electing not to pay. Thus, the Tribunal is unable to agree with the Respondents' reading of and reliance on the definition of "Project Interests" to support its argument.

539. In fact, the Respondents' argument is contradicted by the HCA – a document to which they have attached great importance. The Twenty First Condition of the Hamaca Congressional Authorization provides that:

> The Association Agreement will include provisions that allow for the *compensation* of the Participants, *through amendments to the provisions of the Association Agreement or through the payment of damages*, in the event that the Net Cash Flow of a Participant of the Association's activities is substantially and adversely affected as a direct, necessary and demonstrable consequence of discriminatory and unjust measures, without prejudice to the option for Corpoven, *according to the provisions of the Association Agreement*, to *purchase such participation of the Affected Party* on equitable conditions, if the effect of such amendments or the payment of such damages results in a change of conditions unacceptable for Corpoven. It is understood that the Affected Party must have exhausted all remedies conferred upon it by the laws to obtain the revocation of the discriminatory measures. In no case will it be understood that the application of these mechanisms limits, affects or restricts in any way the power of the governmental bodies ("*Órganos del Poder Público*") to adopt measures pursuant to the Constitution and applicable Laws.[794]

540. The Tribunal notes that this provision first and foremost confirms that the method of compensating the Claimants for a DA resulting in MAE is either through amendments to the provisions of the Association Agreement or through the payment of damages. Second, this provision clearly requires the Respondents to exercise their much emphasized "without prejudice" Buy-Out Option "according to the provisions of the Association Agreement." This in itself is sufficient for the Tribunal to conclude that the Hamaca AA prevails over anything that the HCA may stipulate, at least insofar as the Buy-Out Provisions are concerned. In any event, as concluded elsewhere, in case of inconsistencies between the Hamaca AA and the HCA, the former will control.[795]

---

[792] Rejoinder, § 370.

[793] Reply, §§ 251-252.

[794] First Hamaca Congressional Authorization, **C-59**, Twenty First Condition (emphasis added).

[795] *Supra,* § 268.

541. In the alternative, even if the HCA were applied, it does not alter the Tribunal's conclusions. The Twenty First Condition stipulates that the Respondents can purchase the "participation" of the Claimants in the event they find the payment of damages or the amendments unacceptable. A reading of other conditions of the Hamaca Congressional Authorization clearly demonstrates that participation is understood in the same sense as "shareholding" and not "damages payable due to Expropriation" as any right or interest attached to such shareholding. For instance, the Second Condition stipulates that "For the purposes of complying with tax obligations and other general responsibilities, each of the parties will be independently responsible*, according to its share of participation in the Association*; since the Association is formed without legal personality."[796] The Third Condition stipulates that "[t]he Association Agreement shall specify the *initial share of participation of each Party in the Association*, establishing that ARCO and Corpoven shall each have an initial interest of 30%, and that Phillips and Texaco shall each have an initial interest of 20% in the Association."[797] Thus, if the Tribunal were to interpret "Project Interest" in light of the above conditions, the meaning of "Project Interest" has to be limited. The Respondents' attempt to "purchase" the Claimants' "claim for compensation" and consequently this Counterclaim is still bound to fail.

542. In the circumstances, the Tribunal is of the view that a harmonious reading of the Buy-Out Provisions must necessarily lead to the conclusion that they are incompatible with a situation where the Hamaca Project has been completely expropriated. Accordingly, the Respondents' Counterclaim is dismissed.

IV. QUANTUM

543. The positions and arguments of each Party, insofar as they are necessary to resolve the relevant quantum issues in dispute, have been reproduced prior to the Tribunal's analysis of each issue. For the sake of clarity, the Tribunal emphasizes that it has not provided a summary of each and every specific objection and argument raised by the Parties in their quantum submissions, as it would be both repetitive and unnecessary. Thus the Tribunal has reproduced only what it views as the most important arguments

[796] Hamaca Congressional Authorization, **C-59,** Second Condition (emphasis added).

[797] Hamaca Congressional Authorization, **C-59,** Third Condition (emphasis added). *See also* **Fourth Condition** ("The Parties *may participate in Phase III according to the proportion of their interest in the Association* at the time the decision to participate in Phase III is made and shall have the privileged right to acquire the interest not taken by other Parties in said proportion."), **Eighth Condition** ("The *initial participation by the Parties* (and the inclusion of any third party) in the Association, including but not limited to, the participation of the Parties in Phase III, can be modified pursuant to the provisions set forth in the Association Agreement, subject to what was established in the Third Condition. Under no circumstances shall the said modifications affect Corpoven's control rights that are hereby established.").

for its decision. That being said, even if not expressly reproduced, the Tribunal has considered and carefully examined all of the Parties' arguments and corresponding facts.

544. The Tribunal notes that, since the very outset, the Claimants have argued that, "[u]nder the AAs, the Guarantees, and Venezuelan law, [the] Respondents are **jointly and severally** liable to […] indemnify [the] Claimants pursuant to the DA Claim".[798] As pointed out by the Claimants, the Tribunal further notes that the "Respondents also appear not to contest that they are **jointly and severally** liable to pay damages for the Willful Breach Claim, and to indemnify Claimants pursuant to the DA Claim".[799] Given the Respondents' silence, the Tribunal has no reason to depart from the Claimants' submission. In this regard, as set out in *infra* Section VI, the Tribunal's findings must be deemed as holding the Respondents jointly and severally liable to indemnify the Claimants under the DA provisions of each AA.

A. PRELIMINARY MATTERS

1. The DA formulae

a. *The Petrozuata AA*

545. Sections 9.07(a) to (c) of the Petrozuata AA set out the formula for the payment of compensation by the Respondents following the issuance of a "discriminatory" and "unjust" qualified measure affecting the Claimants (i.e. a measure that can be characterized as a DA).[800] These provisions state as follows:

> **(a)** Subject to paragraph (d) below, the Injured Shareholder shall be compensated from cash available to the Company for the payment of dividends to the Class A Privileged Shareholder and the repayment of Cash Call Loans (both principal and interest) to the Class A Privileged Shareholder, starting with the next declaration of dividends or Cash Call Loan repayment installment, until full compensation has been made of the amounts calculated in accordance with subparagraph (b) below. The Company will be deemed to have paid the dividend or Cash Call Loan (both principal and interest) repayment, as the case may be, to the Class A Privileged Shareholder which corresponds to any compensation made hereunder. Any compensation payment due which cannot be paid because the Company has insufficient cash in any given Fiscal Year from which to declare dividends or make payments on cash call Loans (both principal and interest) shall be deferred and accumulated until the next fiscal year(s) until finally paid, unless the accumulated amount reaches US $ 200 million (Two Hundred Million Dollars) in which case the Class A Privileged Shareholder shall, out of its own general funds, pay this accumulated amount to

[798] SoC, ¶ 264 (emphasis added).

[799] Reply, fn. 573 (emphasis added); C-PHB, fn. 818, 870.

[800] *Supra*, § 103.

the Injured Shareholder. Any accumulated amount existing at the Termination Date shall be paid by the Class A Shareholder out of its own general funds. The Class A Privileged Shareholder may remedy the damage or settle the obligation through alternative means if the terms and conditions of such alternative remedy are acceptable to the Injured Shareholder.

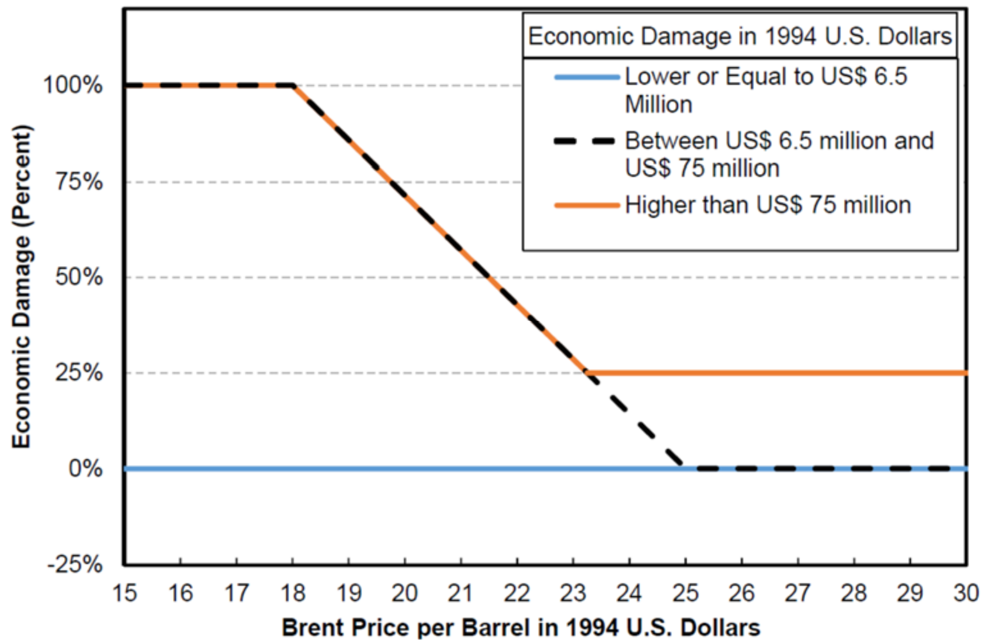
(b) Subject to the provisions of subparagraph (c) below, the amount to be compensated shall be calculated by determining the Price of Brent Crude Oil deflated annually to the year 1994 by the US Inflation Index for each applicable year. If the result yields a price of Brent crude oil of $18.00 per barrel or less, 100% of the damages suffered by an Injured Shareholder shall be compensated, including the threshold amount for purposes of calculating Significant Economic Damage. If the result yields a price of Brent crude oil of $25.00 per barrel or more, then 0% of the damages suffered by an Injured Shareholder shall be compensated. If the result yields a price of Brent crude oil of between $18.00 and $25.00 per barrel, the percentage of damages to be compensated shall be determined by the following formula:

100% less [100% times (Price of Brent Blend Crude Oil less $18.00) divided by $7.00)]

as illustrated by the graph attached hereto and made a part hereof as Exhibit "S".

(c) In the event that in any given Fiscal Year the economic damage suffered by virtue of Discriminatory Actions is greater than $75 million (in 1994 Dollars inflated by the US Inflation Index) the amount to be compensated for that Fiscal Year shall be the greater of 25% of the actual economic damage or the amount resulting from the calculation according to subparagraph (b) above.[801]

546. Exhibit S of the Petrozuata AA illustrates the content of Sections 9.07(a) to (c) in the following graph:[802]



[801] Petrozuata AA, **C-1**, Sections 9.07(a)-(c) (emphasis added).

[802] Brailovsky & Flores ER I, **RER-3**, § 85 (Figure 4); Petrozuata AA, **C-1**, Exhibit S.

547. On the basis of Sections 9.07(a) to (c) and Exhibit S, the Parties and their quantum experts essentially agree that the DA compensation mechanism in the Petrozuata AA operates as follows:[803]

i. Qualified measures must have caused the Claimants economic harm in any given fiscal year greater than USD 6.5 million in Yr. 1994 USD[804] (i.e. SED). If not, then no compensation is owed by the Respondents. As established elsewhere,[805] the harm suffered by the Claimants as a result of the Income Tax Increase and the Expropriation has crossed the aforementioned *de minimis* threshold.

ii. If the economic harm for a given fiscal year is between the minimum of USD 6.5 million and USD 75 million in Yr. 1994 USD, then compensation is set pursuant to a sliding scale determined by a range of average Brent crude oil ("Brent") prices.[806] Accordingly, the indemnity by the Respondents will be 0% of the damages suffered by the Claimants (or nil indemnity) when the average Brent price for the given fiscal year (deflated to Yr. 1994 USD) is greater than or equal to USD 25 per barrel. In turn, the indemnity by the Respondents will be 100% of the damages suffered by the Claimants when the average Brent price for the given fiscal year (again deflated to Yr. 1994 USD) is less than or equal to USD 18 per barrel. In between these Brent prices (i.e. USD 18 and USD 25 per barrel), the percentage of the Respondents' indemnity obligation will decrease by approximately 14% for every USD 1 increase in the Brent price.

iii. If the economic harm suffered by the Claimants for a given fiscal year is greater than USD 75 million in Yr. 1994 USD, then the compensation obligation by the Respondents is equal to the greater of: (i) 25% of the economic damages suffered by the Claimants; or (ii) the amount determined in accordance with the Brent price sliding scale.

iv. If the harm is greater than USD 75 million in Yr. 1994 USD, and for the relevant time period the Brent price has been greater than USD 25 per barrel in yr. 1994 USD, then establishing the Respondents' indemnity obligation

[803] C-PHB, § 985; R-PHB, §§ 142-144; Abdala ER I, **CER-3**, § 55; Brailovsky & Flores ER I, **RER-3**, §§ 86-87.

[804] The Tribunal uses the phrase "Yr. 1994 USD" to signify the USD as valued in the given year.

[805] *Supra*, § 196-201.

[806] Brent is a light and sweet crude oil produced in the North Sea often used as a global pricing benchmark.

does not require the use of the Brent price sliding formula: compensation to the Claimants is set at 25% of the harm suffered by the Claimants as a result of the discriminatory qualified measures at issue.

548. In light of the above, it is common ground that, since the adoption of the Income Tax Increase and the Expropriation in 2007, the annual average Brent price has always been greater than USD 25 per barrel in Yr. 1994 USD.[807] The Parties' quantum experts further agree that the same can be expected and therefore safely projected for the remainder of the original term of the Petrozuata AA, i.e., until 2036.[808]

549. It follows that the Respondents' indemnity obligation under the Petrozuata AA for the harm caused by the Income Tax Increase and the Expropriation is equivalent to either: (i) 25% of the corresponding harm as long as the said harm for any given year *exceeds* USD 75 million in Yr. 1994 USD; or (ii) 0% of the corresponding harm if said harm for any given year *fails to exceed* USD 75 million in Yr. 1994 USD.[809]

550. The Claimants' quantum expert, Mr. Abdala, alleges that because the Petrozuata AA does not provide for a complete and specific formula to determine the Claimant's yearly harm (as does the Hamaca AA),[810] it is more appropriate to adopt a "standard economic approach" computing the Project's "Revenues", "Costs", "Taxes", "Change in Working Capital", and "Debt Payments".[811]

551. To some extent, a similar approach is taken by the Respondents' quantum experts. Indeed, Mr. Brailovsky and Mr. Flores do not openly contest either Mr. Abdala's assertion that the Petrozuata AA lacks a clear formula for the calculation of the Claimants' yearly harm, or the actual formula proposed by Mr. Abdala. Rather, in order to carry out the DA provisions of the Petrozuata AA, Mr. Brailovsky and Mr. Flores essentially consider the same inputs as Mr. Abdala: they also account for, *inter alia*, the Project's production volumes and sales (i.e. revenue),[812] the Projects' costs,[813] the applicable fiscal regime,[814] working capital,[815] and debt services.[816] The

[807] Abdala ER I, **CER-3**, § 55.a; Brailovsky & Flores ER I, **RER-3**, fn. 145.

[808] Abdala ER I, **CER-3**, § 55.a; Brailovsky & Flores ER I, **RER-3**, fn. 146.

[809] Abdala ER I, **CER-3**, § 55.b; Brailovsky & Flores ER I, **RER-3**, fn. 149.

[810] Abdala ER I, **CER-3**, § 56.

[811] Abdala ER I, **CER-3**, § 56.

[812] Brailovsky & Flores ER I, **RER-3**, pp. 47 ss, 66 ss; Brailovsky & Flores ER II, **RER-7**, pp. 29 ss, 57 ss.

[813] Brailovsky & Flores ER I, **RER-3**, pp. 78ss, 82 ss; Brailovsky & Flores ER II, **RER-7**, pp. 33 ss, 73-75.

[814] Brailovsky & Flores ER I, **RER-3**, p. 96 ss.

[815] Brailovsky & Flores ER I, **RER-3**, p. 103; Brailovsky & Flores ER II, **RER-7**, p. 75.

main difference between the Parties' experts thus lies in the methodology adopted to arrive at the actual values of these inputs.

552. The Tribunal agrees with the Parties that the Petrozuata AA lacks a contractually defined exact formula to establish the harm against which the Claimants can claim compensation under the DA provisions. The Tribunal nevertheless has noted the Parties' implicit agreement as to the general mechanics and quantum inputs to that effect.

b. *The Hamaca AA*

553. Articles 14.2(a) and 14.2(b) to (i) of the Hamaca AA set out the formula for the computation of damages payable to the Claimants by the Respondents in the event of harm caused by DAs.[817] In their relevant part, they provide as follows:

> **(a)** Corpoven Sub shall be required to compensate any Foreign Party, in the manner described in this Article XIV, to the extent that the Party **suffers a reduction of more than five percent (5%) in any Fiscal Year in its Reference Net Cash Flow as the result of one or more Discriminatory Actions** (including Discriminatory Actions occurring after, but having an effect on the Reference Net Cash Flow from, such year) (any such Party, an "Affected Party"), **with such reduction being determined by comparing, with respect to any Party in any Fiscal Year, such Party's Reference Net Cash Flow for such year, including the effect of all uncompensated Discriminatory Actions, with the Party's Reference Net Cash Flow for such year excluding the effect of the uncompensated Discriminatory Actions** (such reduction, a "Material Adverse Effect"), it being understood that any Discriminatory Actions would be considered unjust if they resulted, individually or in the aggregate, in a Material Adverse Effect.
>
> **(b)** The obligation described in (a) shall be modified following the **first period (the "Initial Period")** of three (3) consecutive Fiscal Years after the Date of First Commercial Shipment in which:
>
> (i) the Affected Party's average Reference Net Cash Flow is equal to or greater than the average Threshold Cash Flow (as defined in Section 14.2(g)); and
>
> (ii) the Price of Brent Crude Oil (as defined below), averaged over such three-year period, is equal to or greater than $27.00.
>
> For the purposes of this Section, the "Price of Brent Crude Oil" shall mean the average, over a specified period of time, of the daily high and low quotes per barrel for dated Brent, FOB Sullom Voe, published in Platt's Oilgram Price Report (International Spot Crude Price Assessments for Brent (DTD)) published daily by the Commodities Division of Standard & Poor's, deflated to average 1996 Dollars using the US Inflation Index (as defined below); provided that in the event that Brent Crude Oil shall cease to be representative of world crude oil prices or Platt's Oilgram Price Report ceases to be published, the Parties

[816] Brailovsky & Flores ER I, **RER-3**, p. 103.

[817] *Supra*, § 108.

shall unanimously agree on a substitute marker crude oil or reference publication and amend this definition accordingly. For the purposes of the definition of Brent Crude Oil, the "US Inflation Index" shall mean the annual percentage increase or decrease, if any, in the "Implicit Price Deflators for Gross Domestic Product" as published by the United States Department of Commerce, Bureau of Economic Analysis (or a substitute source unanimously agreed by the Parties if such index shall cease to be published).

(c) In the years immediately following the Initial Period, Corpoven Sub's compensation obligation shall be as follows:

(i) In any Fiscal Year in which a Party suffers a Material Adverse Effect as the result of one or more Discriminatory Actions, the Parties shall determine whether the Affected Party's Reference Net Cash Flow for that Fiscal Year averaged with the two (2) immediately preceding Fiscal Years was equal to or greater than the Affected Party's Threshold Cash Flow for that Fiscal Year averaged with such Party's Threshold Cash Flow for the two (2) immediately preceding fiscal years. ·

(ii) If the answer to (i) above is negative, Corpoven Sub shall be required to compensate the Affected Party in accordance with Sections 14.2(d) and (e).

(iii) If the answer to (i) above is affirmative, Corpoven Sub shall not be required to compensate the Affected Party for any Material Adverse Effect suffered by the Affected Party as a result of any one or more Discriminatory Actions that were generally applicable to extra heavy crude oil projects subject to taxation under paragraph unique of Article 9 of the Income Tax Law (such actions "Generally Applicable Discriminatory Actions"). Corpoven Sub's relief from the obligation to compensate shall terminate at the end of the first Fiscal Year during which the Affected Party's Reference Net Cash Flow for that Fiscal Year averaged with the two (2) immediately preceding Fiscal Years is less than the Affected Party's Threshold Cash Flow for that year averaged with the Affected Party's Threshold Cash Flow for two (2) immediately preceding Fiscal Years.

(d) In all Fiscal Years after the termination of relief from compensation described in (c)(iii), Corpoven Sub shall not be obligated to compensate the Affected Party for any Material Adverse Effect suffered by it in such Fiscal Years, to the extent that:

(i) the Material Adverse Effect is attributable to the application of one or more Generally Applicable Discriminatory Actions;

(ii) the Affected Party's Reference Net Cash Flow is equal to or greater than the Affected Party's Threshold Cash Flow; and

(iii) the Price of Brent Crude Oil is equal to or greater than $27.00.

(e) In all years following the Initial Period, in any Fiscal Year when the Price of Brent Crude Oil averages $27.00 or more, any compensation payable by Corpoven Sub to any Affected Party shall be limited to the lesser of: (a) the Affected Party's Damages or (b) the difference between the Affected Party's Reference Net Cash Flow and the Affected Party's Threshold Cash Flow.

(f) For the purposes hereof, the "**Reference Net Cash Flow**" of a Party in respect of any Fiscal Year shall equal:

[(SR – DP – EX – ROY – OT) x (1 – ITR)] – SC + DP

Where: **SR =** (the Party's Project Interest of **Commercial Production** or **Development Production** as applicable, multiplied by the applicable Reference Price) <u>plus</u> any compensation received from Corpoven Sub in respect of prior Discriminatory Actions

DP = depreciation calculated on the basis of a 10-year depreciation schedule or, if different, the schedule required by law

EX = the Party's pro rata share of actual expenses of the Association

ROY = the actual royalty rate applicable to the Party's Project Interest of Extra Heavy Oil multiplied by the royalty base

OT= actual Venezuelan taxes paid that are deductible for income tax purposes

ITR = the actual Venezuelan income tax rate applicable to the Party in connection with the Association's activities; and

SC = Venezuelan taxes paid that are not deductible for income tax purposes.

(g) For purposes hereof, "**<u>Threshold Cash Flow</u>**" shall be calculated in the same manner as Reference Net Cash Flow, except that for the purpose of determining Threshold Cash Flow: **(i) SR will be calculated by replacing the Reference Price with the Adjusted Price** [...]. For the purposes hereof, "**<u>Adjusted Price</u>**" shall mean that price for Commercial Production determined in accordance with a formula established by the Board from time to time pursuant to Section 4.8(a)(xxvii) that reflects the market price for Commercial Production which would exist if the Price for Brent Crude Oil were $27.00, taking into account the quality differential between Commercial Production and Brent crude. Notwithstanding the foregoing, if the Board has not established the formula for determining the Adjusted Price on the date that is ninety (90) days prior to the anticipated start-up date of the Initial Upgrader, as set forth in the Phase II Business Plan, or at any time thereafter within ninety (90) days of the request of any Party, any Party may request that such formula be determined by an expert who is a reputable individual possessing expert knowledge and experience with respect to the pricing of crude oil. All calculations will be based on FOB prices for each crude at the point of origin.

(h) For the purposes hereof, the "**<u>Reference Price</u>**" shall mean (x) for Commercial Production, the Formula Price or, if applicable, the Bid Price for such Commercial Production or (y) for Development Production, the price calculated for such Development Production at the wellhead, based on the value received for blended crude less the cost of diluent oil and all other costs, as provided in the Authorization and Accounting Policies.

(i) Calculations of Reference Net Cash Flow and Threshold Cash Flow shall be made in Dollars to the exclusion of any other currency.[818]

[818] Hamaca AA, **C-3**, Articles 14.1(b)-(i) (emphasis added, underline original).

554. According to the Claimants, the "cornerstone of the indemnification calculation" under the Hamaca AA is the Reference Net Cash Flow ("RNCF") as defined in Article 14.2(f).[819] This is so, the Claimants submit, given that the RNCF is used in deciding whether the MAE "threshold" has been met, and then in determining the amount owed by the Respondents.[820] The Claimants therefore argue that the DA compensation provisions of the Hamaca AA respond to the following two-step inquiry:

> ***Step 1: has the Material Adverse Effect threshold been met?*** Like the Petrozuata AA, the Hamaca AA requires that the Discriminatory Action or Actions have a minimum economic impact before Respondent Corpoguanipa (and Respondent PDVSA under the Guarantee) are required to indemnify. Rather than the monetary amount used in the Petrozuata AA, however, the threshold under the Hamaca AA is defined as a percentage reduction in the Reference NCF. Specifically, a Discriminatory Action will have caused a Material Adverse Effect if there is a five percent or greater difference between: (i) cash flows to Claimant CPH in the but-for scenario, assuming no Discriminatory Measures; and (ii) *actual* cash flows to Claimant CPH (as reduced by the Measures). […]
>
> ***Step 2: determining the amount of indemnification.*** The second step of the Hamaca indemnification analysis is to:
>
> (a) calculate the Reference NCF without the effect of the Discriminatory Action or Actions (*i.e.*, the but-for scenario) for each year from 2007 through the expiration of the Hamaca AA in 2037;
>
> (b) subtract the actual cash flows received by Claimant CPH in each of those years; and
>
> (c) determine the present value of the lost cash flows by updating past losses and discounting future losses.
>
> However, for purposes of calculating item (i) above, the DA provisions in the Hamaca AA limit oil prices to US$27 per barrel (in 1996 dollars), for purposes of determining the but-for revenues that would have been obtained (the variable "SR" in the Reference NCF formula set out above). Because Brent prices have exceeded US$27 per barrel since 2008 (and are expected to do so in future), this results in a substantial reduction in damages over the life of the Hamaca AA, compared to actual losses.[821]

555. The Tribunal agrees with the Claimants that the RNCF is of fundamental importance for the Respondents' indemnity obligations under the Hamaca AA. Indeed, the RNCF is required to determine the existence of MAE. In turn, it is undisputed that the Claimants must demonstrate the existence of MAE in order to be entitled to compensation under the Hamaca AA. Accordingly, "Step 1" of the Claimants' proposed inquiry corresponds to the text of the Hamaca DA provisions. In this regard,

[819] C-PHB, § 991.

[820] C-PHB, § 991.

[821] C-PHB, §§ 994-995.

the Tribunal recalls that, as established elsewhere,[822] the Income Tax Increase and the Expropriation have indeed caused MAE to the Claimants.

556. That being said, the Tribunal shares the Respondents' indication that "Step 2" of the Claimants' suggested inquiry is incomplete: while the RNCF is an essential benchmark in order to carry out the Respondents' indemnity obligation, it is alone insufficient after the expiration of what Article 14.2(b) of the Hamaca AA denominates as the Initial Period (i.e. the three consecutive fiscal years after the date of first commercial shipment).[823] Subsequent to the Initial Period, Articles 14.2 (c) to (e) become controlling and a second benchmark must be taken into account in addition to the RNCF,[824] namely, the Threshold Cash Flow ("TCF") as defined in Article 14.2(g).[825]

557. The TCF is calculated in the same way as the RNCF,[826] albeit with the following input adjustment:

> (i) **SR** will be calculated by replacing the **Reference Price with the Adjusted Price** […]. For the purposes hereof, "**Adjusted Price**" shall mean that price for Commercial Production determined in accordance with a formula established by the Board from time to time pursuant to Section 4.8(a)(xxvii) **that reflects the market price for Commercial Production which would exist if the Price for Brent Crude Oil were $27.00, taking into account the quality differential between Commercial Production and Brent crude.** Notwithstanding the foregoing, if the Board has not established the formula for determining the Adjusted Price […] any Party may request that such formula be determined by an expert […].[827]

558. In this context, the Tribunal notes that the Parties' quantum experts agree that the first commercial shipment took place in October 2004.[828] Hence, the Initial Period elapsed at the end of 2007.[829] As such, harm exceeding the minimum MAE will not be compensated if the average RNCF for any given year and the two prior years is greater than the average TCF for the same three-year period.[830] If the average RNCF

[822] *Supra*, § 196-201.

[823] SoC, §§ 131-133.

[824] *Supra*, § 553.

[825] Brailovsky & Flores ER I, **RER-3**, § 97.

[826] Hamaca AA, **C-3**, Article 14.2(f); *supra*, § 553.

[827] Hamaca AA, **C-3**, Article 14.2(g) (emphasis added, underline original); *supra*, § 553.

[828] Abdala ER I, **CER-3**, § 51; Brailovsky & Flores ER I, **RER-3**, § 93.

[829] Abdala ER I, **CER-3**, § 51 ("[…] but only after an "initial period" of three years after the date of first commercial shipping, which took place in October 2004. As a consequence, the US$27 per barrel cap applies to the RNCF only from January 1, 2008 onwards."); Brailovsky & Flores ER I, **RER-3**, § 93 ("The Initial Period ended at the end of 2007, three years after the First Commercial Shipment, which took place in October 2004.").

[830] Hamaca AA, **C-3**, Article 14.2(c)(iii).

is lower than the average TCF, however, "then compensation to the Claimants is calculated as the **lesser of**: (i) the actual damages suffered; and (ii) the difference between the [TCF] and the [RNCF]".[831]

559. It is thus clear to the Tribunal that, contrary to the Claimants' position,[832] the calculation of the RNCF is not limited to prices for Brent at USD 27 per barrel. Rather, it is the Adjusted Price pertaining to the TCF which is to be calculated proportionally to the said fixed Brent price. The fact that the RNCF and the TCF share almost the same quantum inputs to establish the Respondents' compensation obligations does not mean that both cash flows are indistinguishable.[833] The RNCF must first be used in order to identify the MAE suffered by the Claimants as a result of DAs. After the Initial Period, which is the case at hand, the identified harm must then be contrasted with the TCF in order to calculate the indemnity owed to the Claimants.[834]

560. Notwithstanding the foregoing, it is undisputed that, since the Expropriation, the Claimants' RNCF is nil.[835] This translates into a reduction in the Claimants' cash flow of a 100%.[836] Further, as already mentioned above, Brent has been trading upwards of USD 27 per barrel since 2007 and is expected to continue doing so.[837] It follows that the actual harm suffered by the Claimants due to the Income Tax Increase and the Expropriation has most certainly exceeded the average TCF for the relevant period (in accordance with Articles 14.2(c)(i)-(ii) of the Hamaca AA). Therefore,

[831] Brailovsky & Flores ER I, **RER-3**, § 99; Hamaca AA, **C-3**, Article 14.2(e).

[832] *Supra*, § 554.

[833] The Tribunal notes that, in addition to the calculation of the "SR" input based on the Adjusted Price (as opposed to the Reference Price), the TCF also differs with respect to the RNCF on a few other inputs. To wit, the "DP" (depreciation), "EX" (expenses), "ROY" (royalty rate), "OT" (taxes deductible for income tax purposes), "ITR" (income tax) and "SC" (taxes not deductible for income tax purposes) inputs set out at Article 14.2(g) of the Hamaca AA. However, there appears to be a common understanding as to how the driving distinction between the RNCF and the TCF is the latter's calculation of the "SR" input pursuant to the Adjusted Price. Indeed, during the Hearing, the Claimants' quantum expert, Mr. Abdala, accepted that the TCF is calculated by taking the RNCF' inputs and "basically" replacing the RNCF's Reference Price with the TCF's Adjusted Price (Tr. (Day 10), 2691:4-10). The Respondents' quantum expert, Mr. Flores, expressed the same view (Tr. (Day 10), 2749:25 – 2750:4). Accordingly, the Tribunal understands that the (non)applicability or (ir)relevance of the remaining inputs of the RNCF/TCF formula are not in dispute.

[834] *Supra*, fn. 830-831.

[835] Abdala ER I, **CER-3**, § 48 ("Since the date of nationalization, this computation is simplified, given that net cash flows to the investor in the actual scenario are nil, and therefore yearly damages can be calculated as the but-for reference net cash flows (***RNCF***) defined in Article 14"); Brailovsky & Flores ER I, **RER-3**, 99 (" […] the Reference Net Cash Flow became equal to zero after the nationalization […]").

[836] Abdala ER I, **CER-3**, § 48. It is noteworthy to recall that MAE is caused by only a 5% reduction of the Claimants' RNCF as a result of a discriminatory qualified measure.

[837] *Supra*, § 548.

pursuant to Article 14.2(e) of the Hamaca AA, the compensation owed to the Claimants as a result of the DAs at issue is "simply equal to the [TCF]".[838]

561. In light of the above, the Tribunal notes that the Parties ultimately adopt the same approach in terms of how to implement the DA provisions in the Hamaca AA: the "SR" input in the RNCF must reflect a Brent price benchmark fixed at USD 27 per barrel (i.e. the "SR" as defined in the TCF).[839] Further, in determining the Respondents' indemnity obligation pursuant to the Hamaca DA provisions, the calculations of Mr. Abdala, Mr. Brailovsky and Mr. Flores all account for, *inter alia*, the Claimants' revenues, costs and corresponding fiscal regime.[840] Therefore, despite the Parties' differences with respect to each individual quantum input, which will be discussed in detail below,[841] the Parties appear to agree on the mechanics and methodology of the Hamaca DA provisions.

562. In sum, as pointed out by the Claimants, the overall exercise required to calculate the compensation owed by the Respondents under the Hamaca AA (and, indeed, also under the Petrozuata AA) entails "determ[ining] the present value of lost past and future cash flows […]".[842]

2. *Ex post* v. *ex ante* quantum assessment

563. It is common ground between the Parties and their experts that, subject to the limits set forth in the DA provisions, Venezuelan law requires compensation in accordance with the full reparation (*restitution in integrum*) principle.[843] In this context, since the very outset both Parties have argued in favor of an *ex post* date-of-award valuation as the most appropriate standard for the calculation of damages under Venezuelan law.[844]

564. Notwithstanding the foregoing, the Parties dispute the inter-temporal principle applicable to the historical data of the said *ex post* valuation. In other words, while the Parties do not disagree on the key inputs necessary to determine the compensation

---

[838] Brailovsky & Flores ER I, **RER-3**, § 99; C-PHB, Appendix F, §§ 8-9; *supra*, fn. 831, § 553.

[839] Abdala ER I, **CER-3**, § 48; Brailovsky & Flores ER I, **RER-3**, §§ 98-99; For further analysis on the calculation of the Projects' price projections *see infra*, § IV.C.3.

[840] *See* generally Abdala ER I, **CER-3;** Brailovsky & Flores ER I, **RER-3.**

[841] *Infra,* §§ IV.B.-.H.

[842] C-PHB, § 978.

[843] C-PHB, § 497; R-PHB, § 577; Mata Borjas ER I, CER-2, § 69; García Montoya ER I, RER-1, § 139.

[844] SoC, § 274; SoD, §§ 347,356; Reply, §§ 266, 270; Rejoinder, § 372 ss. The Tribunal deals with the appropriate valuation date further below (*see infra* §§ 581 ss).

owed under the DA provisions (i.e. the Projects' production volumes, oil prices, costs, and applicable fiscal regime),[845] they are not in agreement when it comes to determining the relevant historical data comprising the same key inputs.

565. The Claimants submit that "the Tribunal's award of damages must return Claimants to the position they would have enjoyed if Respondents' wrongful acts had not occurred. This is referred to as the 'but-for' scenario. In that scenario, Claimants would have maintained their ownership interests (and management role) in the Projects, and would have continued to receive cash flows (dividends) from the Projects' operations through the end of their contractual terms".[846] In this regard, the Claimants contend that both the "agreed pre-expropropriation production profiles" and the "agreed cost projections in the pre-expropriation business planning documents" constitute the best evidence of what the Projects could have reasonably be expected to achieve applying the but-for test.[847] According to the Claimants, international tribunals have frequently relied on such pre-expropriation projections, and with good reason: "they reflect what the disputing parties agreed was likely to be achieved, at a nonsuspect time prior to the dispute arising".[848] As such, the valuation's historical period (i.e. the data up to the date of valuation) must be circumscribed to the Projects' projections (particularly on production volumes and costs) prior to the Expropriation. Conversely, pre-Expropriation data must be carried forward into the remainder of the historical period, namely, from 2007 all through the date of valuation (i.e. the date of the Award).

566. The Respondents in turn argue that the Claimants' alleged but-for application impermissibly places them in a better position than they would be, had they remained in the Projects.[849] This is so because the Claimants: (i) take advantage of any post-Expropriation development, such as capturing the benefit of the increase in oil prices; and (ii) at the same time ignore any increase in the Projects' actual costs and their decline in production by defaulting into pre-Expropriation projections (i.e. as envisaged in the 2006 ConocoPhillips Composite Economic Model and the 2006 Petrolera Ameriven Economic Model).[850]

[845] *Supra*, §§ 551, 561.

[846] C-PHB, § 504.

[847] C-PHB, §§ 48(Quantum), 489-496, 603, 612, 614, 801-805.

[848] C-PHB, § 603; Reply, §§ 322-324, 433-435.

[849] R-PHB, § 568.

[850] R-PHB, § 573.

567. In the Respondents' view, the Claimants' approach is incorrect: "it is part of the ABCs of any *ex post* quantum analysis that what happens over time in a project must be taken into consideration[;] actual experience trumps projections […]".[851] Thus, in order to adequately reflect the actual development of the Projects since the Expropriation, the data pertaining to the historical period must account for all information available at the date of valuation, "not just the benefits of value-enhancing factors".[852] Differently stated, a proper *ex post* date-of-award valuation cannot ignore the negative development of the Projects subsequent to the Expropriation.[853]

568. According to the Respondents, the Claimants' reliance on pre-Expropriation projections is only germane to *ex ante* date-of-breach valuations. However, "if *ex ante* production and costs are to be used instead of actual figures, as Claimants suggest with their reliance upon the 2006 ConocoPhillips Composite Economic Model and the 2006 Petrolera Ameriven Economic Model, then [an *ex ante* valuation] should be applied in its entirety, without mixing and matching *ex ante* and *ex post* data".[854] This would require also assuming oil prices as of 2007, given that the oil price surge that occurred thereafter was not in either Party's contemplation at that time.[855] In particular, the Respondents submit as follows:

> Claimants insist that they can ignore any negative development that occurred in the Projects post-nationalization, whether on the cost side or relating to production and revenues, and calculate compensation as if the pre-dispossession plans of over a decade ago were immutable and the Projects were insulated from any negative developments. Their theory is that the 2006 models they rely on constitute the best evidence of what the parties hoped for at the time and that such predispossession plans have been accepted as such by other tribunals, including the ICC tribunal in the *Mobil* case. But both the ICC *Mobil* and the ICSID *Mobil* tribunals calculated compensation on an *ex ante* basis, not an *ex post* basis.[856]
>
> […]
>
> Claimants point to the *Mobil* ICC case as a model for calculating compensation based on *ex ante* business plans and other information, but they forget that the *Mobil* tribunal did that only because it was calculating compensation as of June 26, 2007. In this Arbitration, they want the Tribunal to use pre-nationalization data, but in the context of an *ex post* analysis that avoids the impact of discounting from the present to 2007, when the loss was actually incurred, inflating compensation to astronomical heights which increase daily. In other words, they want to mix and match facts, data and concepts to achieve a

[851] Rejoinder, § 373.

[852] R-PHB, §§ 577, 569-570.

[853] R-PHB, § 571.

[854] R-PHB, § 10.

[855] R-PHB, §§ 748-750.

[856] R-PHB, § 571.

> windfall. Claimants' compensation demand [in] applying the [DA] formula[e] is many times what it would be if the *Mobil* ICC tribunal's approach were adopted. That result would be a scandal. As explained at the Hearing, a proper *ex post* analysis would lead to much the same result as the *Mobil* ICC case, but if the Tribunal were to avoid entering into the morass of the *ex post* analysis, the amount determined by applying the *Mobil* ICC methodology should effectively be the maximum of any rational compensation in this case.[857]

569. In this regard, the Respondents submit that applying the DA compensation provisions to a full expropriation scenario is "somewhat artificial".[858] For instance, the "EX" variable in the RNCF set out in the Hamaca AA requires the consideration of "actual expenses", not "but-for expenses".[859] Further, the Petrozuata AA contains provisions contemplating the payment of compensation out of dividends from ongoing operations, while the Hamaca AA calls for the application of the TCF formula "on a fiscal year-by-fiscal year basis".[860] In the circumstances, the Respondents submit that this Tribunal can join the *ICC Mobil* tribunal in "appreciat[ing] the difficulties inherent in applying the [DA] formula[e] on an ongoing basis when the [P]roject[s] no longer exis[t] and solv[e] the dilemma by considering that the loss resulting from the [E]xpropriation […] was incurred in the fiscal year 2007 (i.e. adopting an *ex ante* date-of-breach quantum valuation *in toto*).[861]

570. The Claimants vehemently oppose the Respondents' proposition to undertake an *ex ante* valuation. They deem it an "11th-hour reversal" raised for the first time at the Hearing, for which there is no legitimate explanation or justification in either the Respondents' pre-Hearing submissions, pleadings, expert reports, or under Venezuelan law.[862]

571. The Tribunal finds merit in the position of both Parties. On the one hand, the Tribunal agrees with the Claimants that the Respondents' suggested *ex ante* valuation constitutes a "*volte-face*" with respect to the approach assumed prior to the Hearing.[863] Indeed, as already noted, the Respondents (along with the Claimants) consistently argued in favor of adopting an *ex post* date-of-award quantum valuation

---

857 R-PHB, § 817.

858 R-PHB, § 813.

859 R-PHB, § 812, referring to Article 14.2(f).

860 R-PHB, § 813, referring to Section 9.07(a) of the Petrozuata AA and Article 14.2 of the Hamaca AA.

861 R-PHB, §§ 813-817; *Mobil Cerro Negro, Ltd. v. Petróleos de Venezuela, S.A. and PDVSA Cerro Negro, S.A.*, ICC Case No. 15416/JRF/CA, Final Award, 23 December 2011, **CLA-16**, § 606

862 C-PHB, §§ 502-503.

863 C-PHB, § 502.

in their SoD and Rejoinder.[864] It was only at the commencement of the Hearing that the Respondents for the first time articulated the pertinence of undertaking an *ex ante* valuation in the present case.[865] In view of this, and for the reasons explained further below, the Tribunal finds no reason to depart from the underlying agreement existing between the Parties up to the Hearing.

572. First, the voluminous quantum submissions by the Parties advocating for an *ex post* valuation could hardly justify a last minute decision opting for an *ex ante* valuation. Given that the case has been pleaded by both Parties based on an *ex post* valuation, there is insufficient evidence for the Tribunal to confidently opt for an *ex ante* approach. The Respondents refer to the Parties' valuation models adduced in the ICSID proceedings (which do put forward both *ex ante* and *ex post* valuations). Nonetheless, the fact remains that the materials prepared and submitted for the present arbitration, including those by the Respondents, have by and large dealt with an *ex post* date-of-award valuation of the compensation owed pursuant to the DA provisions.[866] Indeed, both of the Respondents' quantum expert reports are premised on *ex post* valuation.[867]

573. Second, the Respondents' proposed *ex ante* valuation has been argued as a viable yet not a mandatory alternative. Indeed, the Respondents do not seem to argue that an *ex post* valuation is in and of itself unwarranted. Rather, the Respondents posit that an *ex ante* valuation would avoid the "morass" of undertaking an *ex post* valuation.[868] It follows that the convenience of favoring an *ex ante* valuation assumes that the difficulties of carrying out an *ex post* date-of-award valuation are insurmountable. However, they are not.

574. The Parties' quantum experts are not at odds on the mechanics and arithmetic of applying (in different ways) the disputed valuation inputs in relation to the DA compensation provisions. To that effect, both Parties have provided *ex post,* date-of-award, valuation models allowing to change and toggle the various quantum inputs in dispute. In all valuation models, the final compensation owed to the Claimants varies in accordance with the way each input is toggled, in favor of either the Claimants or the Respondents. The Tribunal can therefore decide which Party should prevail on

[864] *Supra*, § 563.

[865] C-PHB, § 503.

[866] The Tribunal deals with the different valuation models further below (*see infra* §§ 581 ss).

[867] Brailovsky & Flores ER I, **RER-3**, § 9; Brailovsky & Flores ER II, **RER-7**, §§ 2, 5-6.

[868] *Supra*, fn. 857-861.

each issue and toggle the respective input accordingly. Put simply, an *ex post* (as opposed to an *ex ante*) valuation is feasible.

575. In any event, the Tribunal disagrees with the Respondents' argument that applying the DA provisions in the context of a full expropriation is artificial. As argued by the Claimants, and "contrary to Respondents' suggestion,[869] the phrase 'actual expenses' in the [RNCF] formula does not alter the fact that in [a] but-for scenario, the expenses that *would have been incurred,* in the absence of the Measures, must be used".[870]

576. As rightly explained by the Claimants' quantum expert at the Hearing, this is so because Article 14.2(a) of the Hamaca AA requires the definition of two scenarios, "one with the effects of the [DA at issue] and one without [said] effect. In the scenario with the effect, [one must] use the actual cash flows so as to base [the] analysis of the [RNCF]. Of course, in the scenario without the impact of the [respective DA], [one must] necessarily […] create a but-for world in which the actual cash flows would no longer be used, but rather […] the cash flows that would have taken place if the [DA] would not have taken place".[871] This scenario accommodates the fact that, as pointed out by the Respondents,[872] the Hamaca AA calls for compensation on a year-by-fiscal year basis.

577. As to the Respondents' argument in relation to the Petrozuata AA, it is not accurate to claim that the DA provisions therein only provide for compensation "out of dividends from ongoing operations".[873] In the right circumstances, Section 9.07(a) of the Petrozuata AA also allows for the payment of compensation directly out of the Respondents' "general funds".[874]

---

869 *Supra*, fn. 859.

870 C-PHB, § 996.

871 Tr. (Day 10) 2689:19 – 2693:4 (Abdala); Hamaca AA, **C-3**, Article 14.2(a) ("Corpoven Sub shall be required to compensate any Foreign Party, […] to the extent that the Party suffers a reduction of more than five percent (5%) in any Fiscal Year in its Reference Net Cash Flow as the result of one or more Discriminatory Actions […], with such reduction being determined **by comparing**, with respect to any Party in any Fiscal Year, such Party's Reference Net Cash Flow for such year, **including the effect of all uncompensated Discriminatory Actions**, with the Party's Reference Net Cash Flow for such year **<u>excluding</u> the effect of the uncompensated Discriminatory Actions** […]") (emphasis added).

872 *Supra*, fn. 860.

873 R-PHB, § 81; *supra*, fn. 860.

874 Supra, § 226 (" […]the Injured Shareholder shall be compensated from cash available to the Company for the payment of dividends […]. Any compensation payment due which cannot be paid because the Company has insufficient cash in any given Fiscal Year from which to declare dividends or make payments on cash call Loans (both principal and interest) shall be deferred and accumulated until the next fiscal year(s) until finally paid, **unless the accumulated amount reaches US $ 200 million (Two Hundred Million Dollars) in which case the**

578. For the above reasons, the Tribunal cannot accept the Respondents' proposition to undertake an *ex ante* date-of-breach valuation *in toto*. Notwithstanding the foregoing, the Tribunal agrees with the Respodents that, in principle, an *ex post* date of award valuation requires considering the totality of the actual historical data preceding the date of valuation. Indeed, the use of projections contemporaneous to a determined date of breach is mostly apposite in the context of an *ex ante* date-of-breach valuation.

579. That being said, the Tribunal considers that the use of both *ex ante* and *ex post* data is not necessarily unwarranted. First, the Tribunal notes that the Respondents themselves occasionally rely on pre-Expropriation (*ex ante*) calculations.[875] Second, it would be unreasonable to uphold allegedly actual post-Expropriation (*ex post*) data should the Tribunal deem said data either unsubstantiated or unreliable. In those circumstances, the Tribunal finds that reverting to *ex ante* projections is appropriate. After all, as rightly pointed out by the Claimants, both the ConocoPhillips Composite Economic Model and the Petrolera Ameriven Economic Model at some point constituted the shared view of all Project participants, including the Respondents.[876] Still, the decision to consider *ex ante* over *ex post* data must be assessed on a case-by-case.

580. In light of these considerations, the Tribunal shall undertake an *ex post* date-of-award valuation. Accordingly, as a general rule, quantum items will be assessed against actual historical data, as opposed to pre-Expropriation projections. Nevertheless, should the *ex post* data with respect to a particular quantum issue prove to be questionable (i.e. as a result of being, *inter alia*, unsubstantiated or unreliable), the Tribunal shall consider and apply *ex ante* projections instead.

3. Preferred valuation model and valuation date

581. In their PHB, the Respondents rely on the valuation model elaborated by Mr. Vladimir Brailovsky and Mr. Daniel Flores for the ICSID Arbitration.[877] The Brailovsky/Flores ICSID 2016 Valuation Model ("BFVM") offers an *ex post* quantum assessment as of 31 December 2016 (as a proxy to the date of the Award).[878] In turn, the Claimants

---

Class A Privileged Shareholder shall, out of its own general funds, pay this accumulated amount to the Injured Shareholder") (emphasis added).

[875] *Infra*, § 835.

[876] C-PHB, §§ 612, 801.

[877] R-PHB, fn. 1897-1900.

[878] BFVM, **App. BF-406**.

rely on the updated valuation model elaborated by Mr. Abdala and attached to their PHB.[879] The Abdala Updated Valuation Model ("AUVM") also offers an *ex post* calculation of the Claimants' incurred damages, yet it does so as of 27 May 2016 (as a proxy to the date of the Award).[880]

582. Given BFVM's later valuation date *vis-à-vis* the AUVM's (by 7 months), the former in principle seems preferable in the context of an *ex post* date-of-award valuation: it has a closer proximity to the actual date of the present Award. However:

i. The AUVM better differentiates between the various quantum aspects of the Willful Breach Claim and those of the DA Claim. In particular, it allows independently verifying the impact that the DA Claim has in function of the relative success (or lack thereof) of the Willful Breach Claim.[881]

ii. The AUVM allows toggling the disputed quantum inputs at issue in a way that better represents the Parties' argumentative structure on the relevant issues. This is only natural. After all, albeit part of the record, the BFVM was prepared and submitted for the purposes of the ICSID Arbitration. As such, it accounts for issues not in dispute between the Parties. For instance, the BFVM calculates damages for the Corocoro project, which is not at issue in the present dispute.

iii. The AUVM is consistent with pre-Hearing valuation models. Prior to the Hearing, each Party introduced two *ex post* date-of-award valuation models. The Claimants' first valuation model for their DA Claim had a valuation date of 30 June 2015.[882] The second one had a valuation date of 27 May 2016.[883] Correspondingly, the Respondents' first *ex post* date-of-award had a valuation date of 30 June 2015,[884] while the second one of 27 May 2016.[885] Up to the Hearing, the Parties' *ex post* valuation models were thus aligned in terms of the date serving as proxy for the date of the Award. Notably, 27 May 2016 constituted the last common date for quantifing the indemnity owed to the

[879] C-PHB, §§ 51(e), 1004.

[880] AUVM, C-PHB **Appendix E**.

[881] BFVM, **App. BF-406**, Control Panel, Willful Breach Damages Percentage.

[882] Abdala ER I, **CLEX-002**.

[883] Abdala ER II, **CLEX-078**.

[884] Brailovsky & Flores ER I, **RER-3**, § 9; Brailovsky & Flores ER I, **App. BF-005**; Brailovsky & Flores ER I, **App. BF-011**; Brailovsky & Flores ER I, **App. BF-006;** Brailovsky & Flores ER I, **App. BF-012**.

[885] Brailovsky & Flores ER II, **RER-7**, §§ 2, 5-6; Brailovsky & Flores ER II, **App. BF-215**.

Claimants pursuant to the DA provisions of each AA. It follows that, both before and during the Hearing, the Parties have had the opportunity of thoroughly reviewing and commenting on the valuation of the Claimants' DA Claim as of 27 May 2016. In the circumstances, it seems contrary to due process and good practice considerations to opt for a different valuation date post-Hearing.

583. Further, the Claimants' request for relief is made in function of damages calculations as of 27 May 2016, namely, the same valuation date as in the AUVM.[886] In other words, AUVM's date of valuation coincides with the benchmark date pursuant to which the Claimants claim for damages. Given the consistency between the valuation date in the Claimants' submissions and AUVM, the Tribunal is therefore well positioned to assess whether the Claimants' quantum submissions are indeed supported by their expert evidence.

584. The Tribunal notes that, had the Claimants adopted a valuation date as of 31 December 2016 as opposed to one set at 27 May 2016, their DA Claim may have increased.[887] However, as confirmed by their PHB, the Claimants' prayer for relief for their DA Claim in full amounts to USD 7.31 billion as of 27 May 2016, not 31 December 2016.[888] In this regard, the Tribunal is of the view that, both valuation dates being apposite for an *ex post* valuation, it is within the Claimants' prerogative to condition and limit their request for relief as they deem it necessary.

585. In light of the above, the Tribunal considers that the AUVM constitutes the most appropriate valuation model for the Tribunal to establish the indemnity owed to the Claimants under the DA provisions. Accordingly, the Tribunal's determination of the various quantum issues in dispute shall be implemented by subsequently toggling the different options provided in the AUVM.[889] It follows that, pursuant to the Claimants'

---

[886] C-PHB, § 1027(a)-(b), (g), (j)-(o).

[887] Mr. Abdala clarified that the DA Claim would amount to 7.91 billion if valued as of 31 December 2016 (Abdala Hearing Presentation, 8 December 2016, slide 27). The latter figure is corroborated by the *ex post* valuation model prepared by Mr. Abdala and Mr. Pablo Spiller (of Compass Lexecon and submitted to the ICSID Arbitration), with a valuation date of 31 December 2016 (*See*, Abdala/Spiller ICSID Consolidated Valuation Model, **CLEX-086**). Similar to the BFVM (*supra*, § 582.ii), the valuation model prepared by Mr. Abdala and Mr. Spiller for the ICSID Arbitration fails to properly accommodate Parties' position as argued in the present proceedings. In particular, it lacks detail and is more restrictive than the AUVM. For instance, unlike the AUVM, the Abdala/Spiller ICSID Consolidated Valuation Model does not allow the Control Panel's user to: (i) adopt custom interest and discount rates; or (ii) independently toggle the price applicable to the Projects' by-products.

[888] C-PHB, § 1027(o).

[889] This notwithstanding, the Tribunal notes that despite the already considerable detail of the AUVM's Control Panel, certain of the Tribunal's determinations could not be implemented by toggling the available options. Accordingly, as seen below, and when necessary and appropriate, the Tribunal has edited the AUVM's underlying data in order to adequately reflect its findings (infra §§ 1128.i.b), 1128.iii). For the sake of clarity, the case would

request for relief, the amount awarded to the Claimants for the harm suffered as a result of the Income Tax Increase and the Expropriation is calculated as of 27 May 2016.

586. Having set out its conclusions in respect of the above preliminary issues pertaining to DA compensation, the Tribunal will now proceed to address the Parties' arguments regarding the various inputs based on which the DA compensation is to be calculated. As noted above, both Parties generally agree on the inputs that are applicable for calculating the indemnity payable under the DA provisions of the AAs.[890] In essence, it is common ground that the indemnity is calculated on the basis of the Projects' lost cash flows, which in turn are obtained by "multiplying the Projects' **production volumes** by the **prices** at which the resulting products are sold; and **costs** and **taxes** are then subtracted, yielding net cash flows".[891]

587. In the following sections, the Tribunal shall therefore assess the Parties' positions on each of these inputs, namely, production volumes (Section B), Oil Prices (Section C), Costs (Section D), and the applicable fiscal regime i.e. taxes (Section E). The Tribunal shall also determine the adequate interest rate to bring the lost historical cash flows forward to present value (Section F), as well as the reasonable discount rate to bring future cash flows back to present value (Section G). Finally, the Tribunal will decide upon some other issues that, while having certain impact on quantum, have not been subject to major contention between the Parties (Section H).

B. PRODUCTION VOLUMES

1. The Claimants' position

588. The first step in the Claimants' assessment of its damages is to determine the volume of oil that both Projects would have produced had the Claimants remained in possession of their investments, namely "but-for" the Expropriation. In predicting the EHCO production profiles for each of the Projects, the Claimants' valuation expert, Mr. Abdala, claims to have adopted the "most conservative of the **pre-expropriation**

have been no different had the Tribunal opted to rely on the BFVM or any other of the valuation models submitted by the Parties. In this respect the Tribunal notes that, by opting for an all-or-nothing approach, coupled with a lack of customization and the absence of a clear issue-by-issue quantification, the Parties' valuation models were somewhat restrictive.

[890] *Supra*, §§ 550-551, 561.

[891] Abdala ER I, **CER-3**, § 37 (emphasis added); C-PHB, § 506; SoC, §§ 267-268; SoD, §§ 505, 541.

profiles produced by the Projects and their shareholders prior to the [E]xpropriation".[892]

589. According to Mr. Abdala, the pre-Expropriation (and consequently pre-dispute) production figures reflect the shared expectations of the Project participants, including PDVSA, about the probable level of oil production and therefore constitute the best evidence of expected oil production volumes to assist in the application of a but-for analysis.[893] He is of the view that it would be misleading to rely on actual production data available for the Projects because in his view, the actual performance of the Projects in the post-Expropriation period reflects the incentives of the Respondents, a state-owned entity, and such incentives would have differed from those of a private commercial entity like the Claimants. As such, he opines that the Projects' actual performance after June 2007 is not representative of how the Projects would have performed in the absence of the Expropriation.[894]

590. In light of the above, Mr. Abdala makes the following forecasts regarding the expected production levels at the Projects applying the but-for test:

a. for the Petrozuata Project, he projects the remaining EHCO recovery between June 2007 and 2036 to be 913.5 million barrels; and

b. for the Hamaca Project, he projects the remaining EHCO recovery between June 2007 and 2037 to be 1.864 billion barrels.[895]

591. The Claimants submit that various contemporaneous business-planning documents, and more importantly, the post-Expropriation Proved Reserves figures for the Petrozuata and Huyapari fields published by the Ministry,[896] confirm the reliability of Mr. Abdala's production forecasts.[897]

---

[892] C-PHB, § 603 (emphasis added).

[893] C-PHB, §§ 616-624.

[894] Abdala ER I, **CER-3**, § 42.

[895] Abdala ER I, **CER-3,** §§ 66-78.

[896] Both Projects were provided with a designated production field from which to produce the EHCO. The designated field of the Petrozuata Project comprised a Base Area and a Reserves Area both of which were ultimately exploited for EHCO. The Hamaca Project's field comprised of a main area, known as "H" (short for Huyapari) Block, and a reserve area known as "M" (short for Maquiritare) Block. It appears that the M Block was relinquished by the Hamaca Project prior to the Expropriation. (Figuera, WS I, **RWS-2**, § 33) Hence, while referring to the Hamaca Project, the Tribunal shall use the phrase "Hamaca field" or "Huyapari field" interchangeably.

[897] C-PHB, § 603.

592. Turning to the Respondents' case on production volumes, the Claimants submit that the Tribunal must reject the Respondents' production forecasts on a number of grounds. First, the Claimants argue that as a matter of principle, the Respondents' production forecast is not reliable because (i) the Respondents have failed to produce any post-Expropriation figures/documents that contradict the Claimants' case;[898] (ii) the decline in production alluded to by the Respondents is not reconcilable with their own Proved Reserves figures; and (iii) any actual decline in production volumes post-Expropriation is attributable to the Respondents' mismanagement of the Projects and cannot be taken into account when applying a "but-for" analysis.

593. The Claimants also call into question the methodology followed by the Respondents' experts to arrive at the production figures for the Projects on various grounds.

594. Finally, the Claimants also address certain Project specific issues that according to the Respondents affect production volumes.

595. In sum, the Claimants contend that the Tribunal should reject the Respondents' "made-for-arbitration" production forecasts and should instead adopt the production forecasts presented by Mr. Abdala – these being a reasonable and conservative estimate of expected oil production volumes – for quantifying damages.

2. The Respondents' position

596. In contrast to the Claimants, the Respondents base their production profile on "what [actually] transpired in the historical period through 2015, as well as the assessment of the EHCO production capacity at the [Petrozuata and Huyapari fields] by their expert [for the future period]".[899] In particular, their production profile is developed as follows:

i. For the historical period i.e. 2007-2015, the Respondents rely on the "actual performance" of the Projects, namely:

a) for the period June 2007 to 31 December 2008, the Respondents rely on actual EHCO and Commercial Crude Oil ("CCO")[900] produced by the Projects, as reported by their witness Mr. Figuera;[901]

[898] C-PHB, §§ 607-611.

[899] R-PHB, § 668; Brailovsky & Flores ER I, **RER-3**, § 27.

[900] CCO is also referred to as "synthetic crude oil" or "SCO" (i.e. the upgraded EHCO that is ultimately sold in the market). For the purposes of its Award, the Tribunal will employ CCO to refer to the upgraded product.

b) for the years 2009 through 2015, the Respondents rely on actual CCO volumes as presented by Mr. Figuera and on this basis, their expert Mr. Patiño estimates the EHCO volumes that would have been associated with such CCO volumes.

ii. For the projection period (i.e. 1 January 2016 till the expiry of the terms of the AAs), the Respondents rely on the EHCO production profiles forecasted for each Project by their expert, Mr. Patiño, by taking into account the factors affecting production specific to each Project.

597. On the Respondents' experts' analysis applying the but-for test, the following production volumes at the Projects are predicted:

c. for the Petrozuata Project, they project that from 26 June 2007 through the end of the original term of the Petrozuata AA, the Petrozuata Project would produce 522 million barrels of EHCO and sell 449 million barrels of CCO;[902] and

d. for the Hamaca Project, they project that from 26 June 2007 through the end of the original term of the Hamaca AA, the Hamaca Project would produce 1.051 billion barrels of EHCO and sell 990 million barrels of CCO.[903]

598. The Respondents contest the Claimants' reliance on pre-Expropriation production profiles. The Respondents submit that an *ex post* or date of Award quantum analysis – as undertaken by Mr. Abdala – must take into account "all of the information available at the date of analysis […] and therefore [attempt] to reflect the actual development of events, rather than […] forecasts made at the date of breach".[904] On this basis, the Respondents argue that the Claimants cannot act as if the decades old business plans on which their production forecasts were based, were "immutable" and insulated from the negative developments that took place in the post-Expropriation Projects. On the contrary, the Respondents assert that the 2006

[901] Brailovsky & Flores ER I, **RER-3**, § 27.

[902] Brailovsky & Flores ER I, **RER-3**, Table 5.

[903] Brailovsky & Flores ER I, **RER-3**, Table 6.

[904] Peter Ashford, HANDBOOK ON INTERNATIONAL COMMERCIAL ARBITRATION, Brailovsky & Flores ER I, **RER-3 App. BF-15**, pp. 331-332.

models on which the Claimants rely were "overly optimistic [even] when they were prepared."[905]

599. Further, the Respondents dispute the Claimants' reliance on the Ministry's and PDVSA's Proved Reserves figures as a basis for corroborating the reliability of the pre-Expropriation forecasts. They contend that these figures are not comparable with the figures used by the Claimants for their production forecast.

600. Finally, the Respondents also raise specific upstream (relating to oil production) and downstream (relating to upgrading of EHCO into CCO and other by-products) issues with respect to each of the two Projects, which in their view undermine the Claimants' production forecast.

601. More specifically, in relation to the Petrozuata Project, the Respondents assert that the Petrozuata Project was already experiencing a downward trend pre-Expropriation and this was likely to have continued even after June 2007. As regards downstream issues, the Respondents assert that the Petrozuata upgrader faced several technical problems that reduced its performance.

602. In relation to the Hamaca Project, the Respondents primarily assert the existence of operational difficulties with the Hamaca upgrader and its coker unit. According to the Respondents, such problems would have arisen regardless of who was managing the Projects, resulting in reduced production and consequently reduced earnings for the Claimants.

603. In sum, the Respondents conclude that in carrying out their analysis on production, the Claimants have created a "make-believe world that never would have existed no matter who participated in the Projects".[906] Accordingly, the Respondents assert that the Tribunal should reject the "utopian environment" assumed by the Claimants in favor of the realistic analysis presented by the Respondents.

3. Analysis

604. Having studied the Parties' submissions, the Tribunal finds that the disputed issues fall into two broad categories: (i) issues common to both Projects; and (ii) issues specific to each Project. With respect to issues common to both Projects, these concern the methodology adopted for arriving at the production volumes i.e. pre-

[905] SoD, §§ 347-348; R-PHB, § 539.

[906] R-PHB, § 614.

Expropriation figures relied on by the Claimants or the methodology adopted by the Respondents based on Mr. Figuera's and Mr. Patiño's analysis. One aspect of this issue is the Claimants' reliance on Proved Reserves figures for corroborating its proposed production forecast. As regards issues specific to each Project, the Tribunal has highlighted them at Sections IV.B.3.c and IV.B.3.d below.

605. The Tribunal will first address the common issues and then proceed to the issues that are specific to each Project. To the extent necessary, the Tribunal will highlight the specific questions that arise for its decision prior to commencing its analysis on the two broad categories of issues.

a. *What methodology should be adopted for determining the production volumes for the Projects?*

i. <u>The Claimants' position</u>

606. While setting out the Claimants' position on production volumes, the Tribunal will first elaborate upon the Claimants' own position (1) and subsequently set out the Claimants' responses to the production forecast proposed by the Respondents (2).

(1) The Claimants' production forecast

607. As discussed above, the Claimants' approach to establishing oil production applying the but-for test is to rely on the pre-Expropriation forecasts and project this into the *ex post* period. The Claimants submit that pre-Expropriation forecasts are regularly relied upon by international tribunals to determine expected production levels in the but-for application as they constitute the best evidence of the parties' expectations during a "business as usual" period.[907]

608. Accordingly, Mr. Abdala relies on the ConocoPhillips Composite Economic Model, as updated in late 2006 ("Composite Economic Model"), as the basis for forecasting production at the Petrozuata Project between June 2007 and 2036.[908] For the Hamaca Project, Mr. Abdala relies on the Petrolera Ameriven Economic Model

---

[907] Reply, § 313; C-PHB, §§ 617-620; *ADC v. Hungary*, Award, **CLA-13**, §§ 506-507 ("One of the Respondent's main criticisms concerns [the] reliance on the 2002 Business Plan of the Project Company […] as a basis for the DCF calculations, […] because it would not provide a reliable basis on which to base projections as to the future performance of the Project Company for the purposes of assessing damages […]. The Tribunal disagrees since the 2002 Business Plan was approved by ATAA […] a few days before the Decree was issued that led to the expropriation and after five drafts had been discussed between the Quota Shareholders. The 2002 Business Plan, therefore, constitutes the best evidence before the Tribunal of the expectations of the parties at the time of expropriation for the expected stream of cash flows"); Mobil ICC Award, **CLA-16**, § 771.

[908] ConocoPhillips Composite Economic Model, **C-239.** Abdala ER I, **CER-3,** §§ 73-78.

("Ameriven Model") prepared by the operating company of the Hamaca Project and updated as of October 2006.[909] The Claimants submit that Mr. Abdala's production forecast of 913.5 million barrels of oil for the Petrozuata Project and 1.864 billion barrels for the Hamaca Project based on the above Models is consistent with the contemporaneous pre-Expropriation business planning documents. In fact, the Claimants assert that Mr. Abdala's figures are more conservative than the projections in any of these documents, and should therefore be adopted.

609. As regards the Petrozuata Project, Mr. Abdala compares the Composite Economic Model to the following: (i) the 2006 Petrozuata Economic Model maintained by the Petrozuata Project itself, which predicted the Petrozuata Project's Proved Reserves at 1.192 billion barrels of EHCO;[910] (ii) the 2006 Petrozuata Business Plan, which forecasted total production of 1.235 billion barrels of EHCO from 2006 to 2036;[911] and (iii) the Petrozuata 2005 Annual Report, which projected that the Project would produce more than 1.6 billion barrels of EHCO over its operating life.[912] Mr. Abdala submits that the figures in the Composite Economic Model represent the most up-to-date information regarding production prior to the Expropriation. Moreover, the figures are compatible with those indicated in all of the above-mentioned business documents. Accordingly, Mr. Abdala asserts that his figures correctly estimate production volumes of the Petrozuata Project.[913]

610. With respect to the Hamaca Project, Mr. Abdala states that the production forecast in the Ameriven Model is consistent with the production forecast in (i) the 2005 Hamaca Business Plan, which was the last business plan approved by all Project participants, including the Respondents, before the Expropriation;[914] (ii) the 2006 Hamaca Draft Business Plan, which projects the figures for 2007 to 2016 and was prepared while Mr. Figuera was still the President of Ameriven;[915] and (iii) the 2006 ConocoPhillips

[909] C-149; Abdala ER I, **CER-3**, § 136(a)-(d); **CLEX-031.**

[910] 2006 Petrozuata Economic Model, 29 September 2006, **C-147**, p. 468.

[911] 2006 Petrozuata Business Plan, 6 October 2005, **C-126**, slide 10. *See* also **C-268**. Moreover, the Claimants assert that all Business Plans prepared prior to the Expropriation also predicted future EHCO recoveries in excess of 913.5 million barrels (C-PHB, fn 1241).

[912] **C-114**.

[913] Abdala ER I, **CER-3,** §§ 161-168.

[914] **C-127**; C-PHB, § 753(b); Abdala ER I, **CER-3,** § 136(c); **CLEX-058** (Meeting of BOD approving plan).

[915] C-PHB, fn. 1320; **C-283**, p.19. (Predicting the production of 2.1 billion barrels of EHCO over the Project's life).

Economic Model, which projects recovery of 1.894 billion barrels of EHCO over the life of the Hamaca Project.[916]

611. The Claimants further assert that the Respondents themselves endorsed the above documents. For instance, they point to the fact that the Respondents' witness, Mr. Figuera, signed the Petrozuata 2005 Annual Report in his capacity as the President of Petrozuata C.A., approving the expected production of 1.6 billion barrels of EHCO over the life of the Project, as of 2005.[917] Similarly, in respect of the Hamaca Project, the Claimants contend that the Hamaca JVC itself prepared the Ameriven Model.[918] Thus, the Claimants submit that the Respondents' proposition that the pre-Expropriation production profile was "overly optimistic"[919] and "utopian"[920] (and thus unreliable) is untenable.

612. In any event, the Claimants submit that for all their reliance on post-Expropriation developments, the Respondents have failed to produce any evidence in support of their assertion that after the Expropriation the "Projects promptly fell to pieces". For instance, despite the Tribunal's directions; the Respondents have allegedly not produced any current business plans or post-Expropriation production forecasts that contradict the Claimants' position.[921] Moreover, the Claimants also emphasize that the Respondents' witness on production volumes, Mr. Figuera, was not involved in the Projects since the Expropriation and thus does not have personal knowledge of their post-Expropriation production potential.[922]

(2) The Claimants' position on the Respondents' production forecast

613. The Claimants and their experts, Mr. Abdala and Mr. Strickland, challenge the competing production forecast advanced by the Respondents on various grounds. First, the Claimants assert that as a matter of principle, post-expropriation performance data cannot be taken as reflective of the Projects' performance in the but-for application as the Projects were under PDVSA's control (2.1).[923] Second, the

---

[916] **C-239**, p.14.

[917] C-PHB, §§ 720-721.

[918] C-PHB, fn. 1055.

[919] Figuera ER 1, § 17

[920] Rejoinder, § 376.

[921] C-PHB, § 627.

[922] C-PHB, § 629. In particular, the Claimants submit that Mr. Figuera had no direct involvement with the Petrozuata Project from December 2006 and with the Hamaca Project since December 2007. Tr. (Day 4), 1060:3-22; 1116:2-1117:8 (Mr. Figuera).

[923] C-PHB, §§ 658 et seq.

Claimants' experts assert that there are numerous flaws in the methodology followed by Mr. Patiño to forecast production, which thoroughly undermine its reliability (2.2). Third, and in any event, the Claimants' experts also submit that there are errors in the principle components that Mr. Patiño uses for his analysis (2.3). Each of these are addressed in turn.

2.1. The Respondents' production forecasts cannot be used in application of the but-for test

614. As noted above, the Respondents rely on actual figures for the post-Expropriation performance of the Projects. The Claimants submit that these figures cannot be accepted as accurate and reflective of what could have been achieved by the Projects but for the Expropriation for the following reasons.

615. First, the Claimants submit that since the Expropriation, the Projects have been majority owned and controlled by PDVSA, which has entirely different priorities and capabilities from a private commercial entity such as the Claimants. In particular, the Claimants reiterate that PDVSA has become the Government's "cash cow" and most of its revenues are diverted to fund the "obscure" social programs and activities of the Government.[924] The Claimants conclude that as a result, PDVSA's "priorities have shifted – and its performance [at the Projects] has suffered."[925]

616. Second, the Claimants submit that under the Chávez administration, PDVSA suffered from a "brain-drain", inasmuch as in 2003 the Chávez administration dismissed over 18,000 PDVSA employees, several of which were their most experienced engineers, and replaced them with "hired flunkies willing to toe the regime line."[926] Moreover, "a further exodus of experienced employees commenced in 2007, with the [E]xpropriation of the […] [P]rojects".[927] According to the Claimants, this loss of its "oil intelligentsia" (comprising experienced Venezuelan personnel as well as personnel brought in by the foreign oil companies) was a "blow from which PDVSA has never recovered" and has left a permanent negative impact on oil exploration and project management.[928]

---

924 **C-218, C-324**.

925 C-PHB, § 661(a).

926 **C-324**; C-PHB, § 661(b).

927 C-PHB, § 661(b).

928 **C-334**; C-PHB, § 661(b).

617. Third, the Claimants emphasize that there have been repeated and widespread reports of mismanagement and corruption by PDVSA. In particular, the Claimants point to a 2015 Government report based on an inspection of PDVSA-operated facilities, including Petrozuata, which found *inter alia* "[g]eneral deterioration of the upgraders' physical structure due to deficient maintenance."[929] Moreover, this report also noted that there were "[h]igh rates of insecurity and cases of extortion [in the Orinoco Oil Belt] […] as shown by payments charged by organized mafias to allow the performance of daily duties of productive activities […]".[930] Further, a 2016 report by the Permanent Auditing Committee of Venezuela's National Assembly concluded that senior members of PDVSA's management, including former President Rafael Ramírez and current President Eulogio Del Pino, were allegedly guilty of "administrative irregularities".[931] This included allegations of bribery and the mismanagement of PDVSA funds that reportedly cost the company more than USD 11 billion between 2004 and 2014.

618. Overall, the Claimants assert that post-Expropriation, the "new PDVSA" was a substantially different entity in terms of its practices and competencies and this is precisely why the post-Expropriation performance of the Projects cannot be used to compute damages in a but-for test application.

2.2. There are fundamental flaws in the Respondents' methodology

619. Next, the Claimants call into question the competing production forecasts advanced by the Respondents based on Mr. Figuera's testimony and Mr. Patiño's analysis. In this respect the Claimants' submissions are two-fold: first, that the Respondents' production profile for the historical period is "anti-historical" and ignores actual EHCO production without any basis; and second, that Mr. Patiño's methodology for calculating the Projects' production profiles for the future period is "demonstrably wrong" and is not confirmed by any "reality checks".

620. As regards the production figures for the historical period (i.e. 2009 – 2015), the Claimants note that Mr. Patiño does not base his case on the volumes of EHCO actually extracted from the Petrozuata and Hamaca fields. Rather, he estimates the EHCO volumes that would be needed to produce the amounts of CCO actually sold

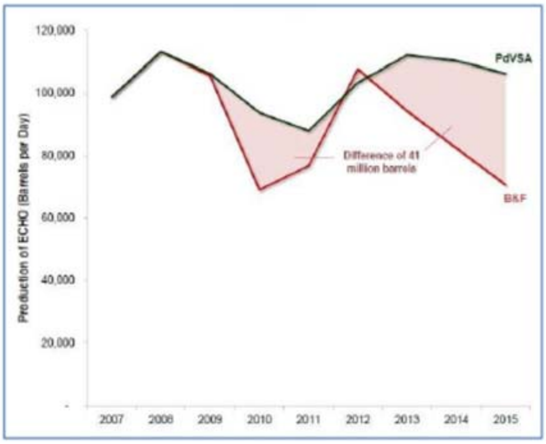
[929] **C-358**, **C-218**.

[930] **C-358**, p. 40.

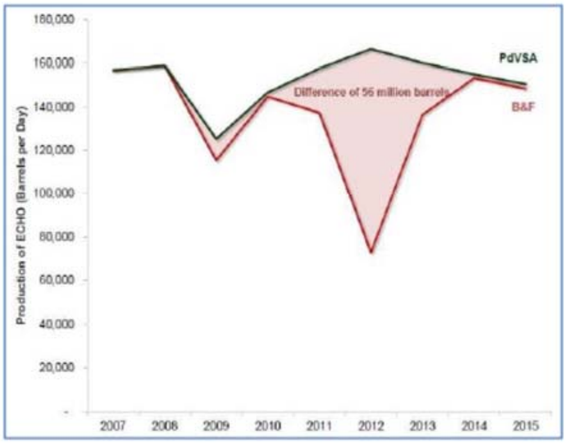
[931] **C-394**, pp. 60-66, 91-96.

by the Projects.[932] In doing so, the Claimants assert that the Respondents omit from their production profile for this period approximately 97 million barrels of EHCO. The "lost oil" can be illustrated as follows:[933]

Petrozuata



Hamaca



621. According to the Claimants, the reasons cited by the Respondents to justify their calculation is entirely without basis. The Claimants submit that, as admitted by Mr. Figuera during the Hearing, the pre-Expropriation Projects routinely produced and sold non-upgraded blended products and the Ministry was fully aware of this fact.[934] Therefore, the EHCO that was allegedly commercialized in non-upgraded form cannot be excluded from production volumes when applying the but for test.

622. As regards the Respondents' reliance on the Ministry's letter of 23 June 2005, the Claimants contend that this letter did not prohibit the production and sale of blended non-upgraded products by the pre-Expropriation Projects. Rather, it was a "tax bill" that demanded the Projects to pay a higher royalty for the non-upgraded EHCO.[935]

---

[932] SoD, §§ 417, 473; Tr. (Day 9), 2358:9-2359:4 (Mr. Patiño) (**Q.** So, is it not correct that, for those years, by which I mean 2009 to 2015, your model simply uses the EHCO volumes that would be needed to produce the amounts of syncrude actually sold by the Projects, according to Mr. Figuera? **A.** I used the volumes indicated by Mr. Figuera that were produced during that period of time. **Q.** Right. So, when we look in your model for those years, what we see is not what the Projects actually produced, but, rather--the amount of EHCO they actually produced, but rather the theoretical EHCO volumes that would have been needed to produce the syncrude that they actually sold; is that right? **A.** Correct, yes. **Q.** And you tell us in your Reports that the volumes of EHCO that the Projects actually extracted over those years 2009 to 2015 are bigger than the numbers reflected in your Report corresponding to the syncrude sales; correct? **A.** That is correct, yes).

[933] Abdala ER II, CER-8, pp. 44-45, Fig.8-9. The pink area reflects the "lost oil".

[934] Tr. (Day 5), 1214:1 – 1232:20 (Mr. Figuera); C-PHB, § 671(a)-(e).

[935] C-PHB, § 672(a)-(b).

623. In light of the above, the Claimants contend that the Respondents' attempt to disregard the actual EHCO production between 2009-2015 i.e. the historical period, in the but-for test application must be rejected.

624. As regards the future period (i.e. 1 January 2016 onwards), the Claimants assert that Mr. Patiño's production forecasts are "demonstrably wrong".[936]

625. Mr. Patiño's production forecasts for the future period are premised on three main components:[937] (i) decline rates, being the rate at which the wells drilled in the Petrozuata and Huyapari fields will decline; (ii) well targets or the drilling of additional wells, in order to determine how many new wells could be drilled from 2009 to maintain the necessary levels of production; and (iii) initial production potential, which estimates the initial rate at which each new well would produce oil till the decline began.[938]

626. The Claimants' expert Mr. Strickland explains that the above methodology is a "simple decline curve methodology" and states that it is "overly simplistic and ill-suited for the purposes of forecasting future [EHCO] production volumes" of the Projects.[939] Instead, according to Mr. Strickland, based on the quantity and quality of data available for both Projects, the geophysical characteristics of the EHCO, and the development strategy employed by the Parties, "the use of reservoir modeling at Hamaca and advanced decline curve techniques at Petrozuata […] were appropriate and reliable methods to employ".[940]

627. According to Mr. Strickland, simple decline curve analysis is inapposite for forecasting long-term oil production as it may *inter-alia* fail to account for changing operating conditions and as a result underestimate future production. Conversely, advance decline curve analysis is more rigorous as it "go[es] beyond merely extrapolating the

---

[936] C-PHB, § 675.

[937] Described in greater detail at §§ 637-646, *infra*.

[938] Patiño ER I, **RER-4**, §§ 23, 39, 26-27, 42-43, 30-31, 45-46.

[939] Strickland ER, **CER-6**, §§ 5, 20-36.

[940] Strickland ER, **CER-6**, §§ 20-35 (Mr. Strickland explains that the basis of Decline Rate analysis is the assumption that future production will continue to follow a past trend i.e. that the data is "well behaved" and not erratic and that there is sufficient historical data. Separately, he criticizes the use of the simple form of decline curve analysis not only because it is more rudimentary than the advanced decline curve (or reservoir modeling) approaches, but also because in his view the fields in the Orinoco Belt have certain characteristics that make the simple decline curve analysis susceptible to significant error. He explains that simple decline curves work best with reservoirs that have high oil mobility. However, given the high viscosity of the EHCO in the Orinoco Belt, including at Petrozuata and Hamaca Projects, the reservoirs have relatively low mobility. Production characteristics of low mobility reservoirs include long transient periods where the decline rate is high at first and then gradually changes to even lower decline rates. Hence, in his view, a simple decline curve cannot account for such variations).

rate of decline; [and] also account[s] for principles of thermodynamics and physics, and can take into account observed conditions in the field, […] making the estimate of future production more accurate."[941] Similarly, reservoir modeling is the most advanced technology available for forecasting recovery and can give a "level of precision and accuracy that the […] other methods […] cannot match."[942]

628. Mr. Strickland also notes that advanced decline curve techniques were employed at the Petrozuata field and reservoir modelling was employed at the Huyapari field, and states that these are far more sophisticated and therefore capable of yielding more accurate results than the methodology applied by Mr. Patino.[943]

629. Mr. Strickland then proceeds to address what he considers to be the main flaws in Mr. Patino's methodology:

a. First, Mr. Patino did not have a sufficiently large sample set based on which to conduct his decline rate analysis. Mr. Strickland notes that Mr. Patino's criteria for selecting his sample set[944] and his exclusion of "outlier wells"[945] left him with only "124 from Petrozuata's 395 total existing wells, and 55 from Hamaca's 346 total wells", to conduct his analysis.[946] According to the Claimants, it is obvious from the numbers that Mr. Patino's methodology was unsuited for a vast majority of the wells at both fields.

b. Second, Mr. Patino erred by applying the same decline rate to all wells – existing and future – included in his forecasts for both fields, without first confirming whether the average decline rate was even representative of the existing wells in the field.[947]

[941] Strickland ER, **CER-6**, §§ 28-30.

[942] Strickland ER, **CER-6**, §§ 32-33.

[943] Strickland ER, **CER-6**, § 35.

[944] Mr. Patiño examined wells that could provide six years of data devoid of erratic behaviour. It appears that by virtue of timing, these wells happened to be the earliest wells drilled and therefore likely to be the wells drilled in the best parts of the field.

[945] i.e. wells which had a decline rate of more than 30% and were thus not representative of the fields.

[946] Strickland ER, **CER-6**, § 41.

[947] C-PHB, § 648; Second ICSID Report, Patiño ER I, **RER-4 Annex II**, §§ 25–26.

c. Third, Mr. Patino's decline rate analysis conflates two different types of wells, i.e. those exhibiting an exponential decline[948] and those exhibiting a hyperbolic decline[949] and instead treats them all as exponential wells.

d. Fourth, Mr. Patino failed to undertake the most obvious reality checks of his results in order to ensure that they were accurate. In particular, (i) he did not attempt to reconcile his forecast with the Ministry's Proved Reserves figures allegedly because "he was not asked to do [so]";[950] (ii) he did not ask for and obtain long-term oil production forecasts produced by the post-Expropriation Projects. Moreover, although he asked for them, Mr. Patino was not provided with the post-Expropriation Projects' long-term forecasting tools and omitted to mention this in his Expert Report; and, finally, (iii) he did not test his forecasts against the actual EHCO production from the Petrozuata and Huyapari fields as reported by PDVSA.[951]

630. Because of the above errors, the Claimants assert that Mr. Patino's methodology "overstates the decline rate of the fields and, relatedly, understates the expected ultimate recovery".[952] To reinforce their point, the Claimants emphasize that as a result of applying an incorrect methodology, Mr. Patino's production forecasts "represent[ed] about 51% of the volumes […] upon which the damages calculated by the Claimants' damages experts are based".[953] Accordingly, the Claimants conclude that no confidence can be placed in Mr. Patino's results.

2.3. There are errors in the principle components of Mr. Patiño's methodology

631. Lastly, the Claimants also point to what, in their view, are technical errors in the various components of Mr. Patino's methodology.

632. As set out above,[954] Mr. Patino's methodology comprises three components: (i) decline rate analysis; (ii) determination of remaining wells; and (iii) the initial potential production analysis for the new wells. According to Mr. Strickland, Mr. Patino reaches

---

[948] Strickland ER, **CER-6**, § 40(b) (an exponential decline is a constant rate of decline over time).

[949] Strickland ER, **CER-6**, § 40(b) (an hyperbolic decline is a changing rate of decline over time)

[950] Tr. (Day 9), 2330:7-15 (Mr. Patiño).

[951] C-PHB, §§ 689-696.

[952] Strickland ER, **CER-6**, § 40(b).

[953] Strickland ER, **CER-6**, § 40.

[954] *Supra*, § 625.

demonstrably erroneous conclusions on (i) and (ii) above. However, subject to his overarching objections to Mr. Patino's methodology, Mr. Strickland accepts the initial production figures used by Mr. Patino for his analysis.[955]

633. With respect to Mr. Patino's decline rate analysis, the Claimants assert that the most egregious error made by Mr. Patino is to conflate exponential and hyperbolic wells and apply the same exponential decline rate for forecasting production from all wells. According to the Claimants, because hyperbolic wells decline more gradually than exponential wells, they are likely to produce more oil than wells that decline exponentially, over the same period of time. The Claimants observe that in the sample set chosen by Mr. Patino nearly half the wells were hyperbolic. Thus, by virtue of his flawed analysis, the Claimants submit that Mr. Patino overstates the decline rates and understates production at "Petrozuata by approximately 367 million barrels of oil and at Hamaca by approximately 712 million barrels of oil".[956] The Claimants assert that if Mr. Patino had undertaken his calculations correctly, the average decline rate for the Petrozuata Project would be 12.2% and 13% for the Hamaca Project.[957] By way of a reality check, the Claimants submit that Mr. Patino's decline curves for both Petrozuata and Hamaca fall well below the actual production history of the post-Expropriation Projects.[958]

634. With respect to the determination of remaining well targets, Mr. Strickland states that first, Mr. Patiño's selection criteria for viable new well targets are unduly restrictive. In this respect, Mr. Strickland explains that Mr. Patino applies unrealistic standards to determine which areas of the field constitute targets that can be economically drilled. To support this conclusion, Mr. Strickland cross-checks Mr. Patino's criteria against the wells already drilled and demonstrates that if Mr. Patino's criteria were to be

[955] Strickland ER, **CER-6**, § 76.

[956] C-PHB, §§ 698-701; Strickland ER, **CER-6**, §§ 61-64, 75. The Tribunal notes that other errors in the Respondents' decline rate analysis have been highlighted by Mr. Strickland. In particular, Mr. Strickland asserts that Mr. Patiño incorrectly relies on "well test" data as opposed to "allocated production data" to perform the decline rate analysis. Mr. Strickland explains that at most oil fields the production of individual wells is not recorded. Rather, the volume produced for a group of wells is recorded and then periodic well tests are used to allocate volumes to each well within the group. This was presumable the procedure in place for both the Projects before and after Expropriation. Well-test data on the other hand measures the amount of oil that can be extracted under the test conditions and is therefore not reflective of production conditions. (Strickland ER, **CER-6**, §§ 44-46) Mr. Strickland is of the view that while well-test data can be used to calculate decline curves it requires additional analysis to account for operating conditions and operational changes, a step which Mr. Patiño fails to take into account. The other error with the decline rate analysis is to use the same decline rate for existing as well as new wells.

[957] Strickland Consolidated ICSID Report, fn. 75. This translates to the estimated ultimate recovery from January 2009 until the end of the Project terms being 585 million barrels for Petrozuata and 1.402 billion barrels for Hamaca.

[958] Strickland ER, **CER-6**, Figures 1 and 2; §§ 52-59.

applied, then several presently drilled wells would never have been drilled in the first place.[959] Moreover, Mr. Patino allegedly restricts his forecast for the Petrozuata Project to only include single lateral wells. However, according to the Claimants, there is no basis for this assumption because the Petrozuata Project has drilled multi-lateral wells both before and after the Expropriation. Finally, it appears that Mr. Patino did not cross-check his figures with the well-drilling plans of the post-Expropriation Projects, thereby omitting the most basic "sense check".[960]

635. Second, Mr. Strickland states that despite applying overly strict criteria, Mr. Patiño missed viable well targets.[961] In particular, Mr. Patino allegedly missed 22 viable targets at the Petrozuata Project and 20 at the Hamaca Project.[962] In the circumstances, Mr. Strickland is of the view that Mr. Patino's conclusion that there are insufficient well targets to make up for the decline rate is incorrect. According to Mr. Strickland, the difference in production volumes of not including these well targets is approx. 18 million barrels of EHCO for both Petrozuata and Hamaca.[963]

636. In light of the above, Mr. Strickland submits that the total additional volumes that will be recovered according to Mr. Patino's models once the errors are corrected are as follows:[964]

1	2	3	4	5	6
Time Period	Mid-2007 to end 2008	2009 to end of Projects' terms		Mid-2007 to end of Projects' terms	
Data Source	Reported Actual Production	Patiño Forecasting Model		Strickland Corrected Figures + Reported Actual Production	Comparison to COP Damages Model
		Patiño projected recovery	Strickland Corrected Figures		
Petrozuata	59	461	836	895	913.5
Hamaca	87	962	1667	1754	1863.5

959 Strickland ER, **CER-6**, §§ 82-84.

960 February 2017 ICSID Quantum Hearing Transcript, **C-395**, Day 9, 2678:14-2681:5.

961 C-PHB, § 710.

962 Strickland ER, **CER-6**, § 89, Appendix 12.

963 Tr. (Day 8), 2158:4-9 (Mr. Strickland).

964 Strickland ER, **CER-6**, Table 3

All volumes in millions of barrels of EHCO

ii. <u>The Respondents' position</u>

637. In contrast to the Claimants' pre-Expropriation based production forecasts (which the Respondents deem "aspirational"), the Respondents base their production forecasts on the "years of actual performance data that post-date the 2006 models, and [which] show that the ideal world underlying the modeling in 2006 was completely unrealistic".[965]

638. First, the Respondents address the Claimants' insinuation that post-Expropriation figures cannot be relied upon because they reflect what has been achieved under the "new PDVSA" which would have thus been vastly different had the Claimants remained with the Projects. According to the Respondents:

> [The] Claimants have never been able to explain why it should be assumed that at [the Projects], where PDVSA personnel held and would have continued to hold the highest management positions, including the position of President, where the PDVSA subsidiary would have held a blocking vote on all significant decisions, and where the vast majority of employees were locally hired Venezuelan nationals, the presence of a handful of ConocoPhillips secondees would have dramatically changed the results achieved in the post-nationalization period.[966]

639. The Respondents submit that the presence of a few ConocoPhillips employees assigned to the Projects would not have changed anything in the post-Expropriation Projects. This is because in both the pre- and post-Expropriation Projects, the PDVSA Subsidiaries would have held the position of control and the ability to steer the Projects. This was required by the 1975 Nationalization Law,[967] as well as the Congressional Authorizations for the Projects[968] and came to be reflected in the AAs. For instance, fundamental and significant decisions could not be adopted without the approval of the PDVSA Subsidiary[969] and the Presidents of both Petrozuata CA and the Hamaca JVC were required to be PDVSA appointees.[970] Given these circumstances, the Respondents assert that the mere participation of the Claimants in the Projects, however "active", would not have altered the course of events as they in

[965] Figuera, WS I, **RWS-2**, § 15.

[966] R-PHB, § 602.

[967] 1975 Nationalization Law, **R-278**, Article 5,

[968] PCA, **R-10,** Eleventh and Twelfth Conditions; First HCA, **R-11**, Sixth and Seventh Conditions.

[969] Petrozuata AA, **C-1**, Sections 6.07, 6.14; Hamaca AA, **C-3**, Articles 4.5 – 4.8.

[970] Petrozuata AA, **C-1,** Section 7.02; Hamaca AA, **C-3,** Article 4.4.

fact came to pass.[971] It would not have altered the problems faced by the Hamaca upgrader[972] or for that matter the geophysical characteristics of the Petrozuata and Huyapari fields, which would have suffered the same decline they did post-Expropriation.

640. As regards the Claimants' assertion that the post-Expropriation Projects had different incentives under the "new PDVSA", the Respondents submit that this argument "makes no sense". This is because PDVSA is no more "interested in throwing money at a project without at least attempting to improve performance", than any other commercial oriented international oil company like the Claimants.[973] The above statement holds even greater relevance in respect of the Hamaca Project, where Chevron – an international oil company like the Claimants – remained a participant in the post-Expropriation Project.[974]

641. Having addressed the Claimants' main objections to using the Respondents' forecasts, the Respondents then proceed to explaining their production forecasts.

642. In that respect, the Tribunal notes that for the period June 2007 to 31 December 2008, the Respondents rely on actual EHCO and CCO produced by the Projects, as reported by their witness Mr. Figuera.[975] According to Mr. Figuera:

> In 2007, Petrozuata produced a total of 36,044,474 bbls of EHCO (an average of 98,752 BPD), sold 29,666,968 Bbls of upgraded crude oil (an average of 81,279 BPD), and received total revenues from such sales of US$1.814 billion, for an average sales price of US$61.51 per barrel.[976]
>
> In 2008, Petrozuata produced a total of 41,398,549 Bbls of EHCO (an average of 113,111 BPD), sold 35,700,904 Bbls of upgraded crude oil (an average of 97,543 BPD), and received total revenues from such sales of US$3.119 billion, for an average sales price of US$87.38 per barrel.[977]
>
> In 2007, the Hamaca Project produced a total of 57,150,178 Bbls of EHCO (an average of 156,576 BPD), sold 53,547,480 Bbls of upgraded crude oil (an average of 146,705 BPD), and received total revenues from such sales of US$3.518 billion, for an average sales price of US$65.71 per barrel.[978]

[971] R-PHB, §§ 593-602.

[972] Figuera, WS I, **RWS-2**, **Annex E**, § 14.

[973] R-PHB, § 618; RWS-2, § 16.

[974] R-PHB, §§ 593-602.

[975] Brailovsky & Flores, ER I, **RER-3**, § 27.

[976] Figuera, WS I, **RWS-2**, **Annex A,** § 11.

[977] Figuera, WS I, **RWS-2**, **Annex A,** § 12.

[978] Figuera, WS I, **RWS-2**, **Annex A**, § 37

> In 2008, the Hamaca Project produced a total of 58,112,475 Bbls of EHCO (an average of 158,777 BPD), sold 52,430,724 Bbls of upgraded crude oil (an average of 143,253 BPD), and received total revenues from such sales of US$4.792 billion, for an average sales price of US$91.40 per barrel.[979]

643. Thereafter, for the remaining period, i.e. from 1 January 2009 to the end of the term of each of the AAs, the Respondents rely on the EHCO production capacity programs developed by their expert Mr. Patiño.

644. With respect to the historical period, i.e. 2009 through 2015, the Respondents point out that although actual well-drilling and EHCO production data is available, the same cannot be relied upon without suitable adjustments. This is because different considerations applied to the volume of EHCO produced before and after 2009. The Respondents submit that prior to January 2009, the Projects were allowed to sell only upgraded products, i.e. CCO. In other words, all EHCO produced at the fields was upgraded to CCO.[980] However, starting in 2009, the post-Expropriation companies were allowed to commercialize EHCO in other non-upgraded blended forms as well. Consequently, the amount of EHCO produced by the post-Expropriation companies was much higher than the volume of EHCO that would have been required for the CCO actually sold in the historical period. The Respondents submit that in order to calculate the volume of EHCO produced in the historical period, the same conditions that had applied to the Projects under the AAs must be assumed. Considering that the Projects under the AAs would not have been allowed to commercialize non-upgraded products, any excess volume of EHCO must be excluded from production volumes in a but-for analysis.[981]

645. In light of the Respondents' instructions, in order to determine the EHCO volumes produced by the Projects in the historical period but-for the Expropriation (i.e. accepting that there has not been any sales of non-upgraded EHCO), Mr. Patiño "estimate[ed] – not "forecast[ed]" or "predict[ed]" – the EHCO volumes that would have been needed for the [CCO] production achieved".[982] In order to arrive at this

[979] Figuera, WS I, **RWS-2**, **Annex A**, § 38.

[980] ICSID Consolidated Report, § 122.

[981] R-PHB, § 668; Patiño **RER-4**, fn.14; ICSID Consolidated Report, § 19, fn. 29 (The Respondents' expert explains that at the upgrading projects, EHCO is blended with a diluent (usually naphtha) at the field to facilitate its extraction and/or transportation. The blended product, known as diluted crude oil ("DCO"), is treated at a facility in the Orinoco Oil Belt, where water and gas are removed, after which the DCO is transported by pipeline to the upgrader at the Jose Industrial Complex on the northern coast of Venezuela. At the upgrader, the diluent is separated and recycled to the field to be re-used to extract and transport new batches of DCO, while the EHCO is upgraded to CCO. In addition to DCO, another non-upgraded product called Merey 16 can be produced if, instead of blending the EHCO with naphtha diluent, the EHCO is blended with Mesa, a light crude oil produced by PDVSA.).

[982] Patiño ICSID Testimony, Patiño ER I, **RER-4 Annex II**, § 3, fn. 6, 7; B&F ICSID Consolidated Report, § 19.

figure, Mr. Patiño used the "yield factors" at the Petrozuata and Hamaca upgraders to make the necessary calculations. Simply put, the yield factor reflects the amount of CCO that will be produced per barrel of EHCO. Therefore, in order to calculate how much EHCO would be required to achieve the volume of CCO that was actually sold between 2009 to 2015, Mr. Patino merely divided the CCO volume by the yield factor of the respective Projects.[983] On this basis, Mr. Patiño arrived at the approximate volume of EHCO that would be required to achieve the volume of CCO that was sold in the historical period.[984]

646. Mr. Patiño then proceeds to determine the EHCO production capacity of each of the Projects for the future period i.e. 1 January 2016 through the end of the terms of each Project. In order to do so, Mr. Patiño utilizes the following elements:

(a) First, he estimates the potential production capacity that existed at each of the fields as of 1 January 2009. In other words, he estimates the production of EHCO that could have been achieved as of 2009, in light of the active wells and wells that were inactive but could be reactivated quickly.[985]

(b) Second, he estimates the rate at which the potential production capacity will decline i.e. the "Decline Rate".

(c) Third, he estimates remaining "well targets" in the fields with the objective of determining how many new wells can be drilled in the field, to replace the production capacity that has been lost because of either natural decline or any other reasons that prevent a well from producing desired levels of EHCO. For this purpose, he assumes that new wells will be drilled only if their initial

[983] B&F ICSID Consolidated Report, §§ 19, 122 (Mr. Patiño explains that he uses a design yield factor of 0.947 for the Hamaca Project and 0.8621 for the Petrozuata Project based on the capacity of their respective upgraders. To determine how much EHCO would be required to achieve a known volume of CCO, he divided that volume by the yield factor. By way of example, if Hamaca produced 100,000 BPD of CCO over a specified period, 105,597 BPD of EHCO (*i.e.*, 100,000 ÷ 0.947) would have been necessary).

[984] The Tribunal understands that the value so calculated would represent the actual volume of EHCO that was necessary to produce a given volume of CCO. Mr. Patiño explains however that there are always short-term problems at the field which can negatively affect production. As a result, oil projects always provide for a margin of error between their production capacity and the actual production. In other words, the production capacity of a field is always more than the actual production that a field achieves by a certain factor and forecasts will reflect the "production capacity" rather than the "actual production". This is referred to as the "potential production capacity". Mr. Patiño states that the "potential production capacity" is a theoretical figure, which reflects the potential production of all active wells and those inactive wells that can be repaired rapidly and put back into use. (*See* First Patiño ICSID Report, n.4). For the Orinoco Oil Belt, it appears that the potential production capacity is estimated at 10% more than actual production. Accordingly as a final step to estimating the production volume of EHCO in the historical period, Mr. Patiño multiplies the volume of EHCO by 110%. Accordingly, to take the previously offered example (*supra*, fn. 983) one step further, to determine the EHCO production capacity needed to produce 105,597 BPD of EHCO, one would multiply that figure by 110%, yielding an EHCO production capacity of 116,156 BPD (ICSID Testimony, Patiño ER I, **RER-4 Annex II**, § 3, fn. 6, 7).

[985] Patiño ER I, **RER-4,** § 13; fn 8.

potential production meets a certain threshold i.e. 200 BPD, as otherwise it would not be viable.[986] Because certain wells may fail and require replacement, he also accounts for "Re-drilled" wells.

(d) Fourth, he estimates the production capacity that these new wells will add to the overall production capacity of the field. In order to do so, he estimates the actual "initial potential production" of the new wells and estimates the well's plateau period, before production begins to decline.

647. Mr. Patiño's analysis of the above elements in respect of each Project is set out below.

The Petrozuata Project

648. Production capacity as of 1 January 2009: Mr. Patiño determines that as of 1 January 2009, a total of 373 wells had been drilled, completed and connected at the Petrozuata field. Of these 289 were active wells and 29 were wells that could be brought back into service with minor repairs. Further, 12 additional wells were in the process of being drilled and would be completed and connected to the production facility in 2009. Based on the production data available, Mr Patiño concludes that as of 1 January 2009, the production potential of the above wells combined is 118,200 BPD.[987] The Tribunal notes that Mr. Strickland does not dispute this figure.[988]

649. Production capacity after 1 January 2009: Having determined the production capacity at the start of his analysis, Mr. Patiño proceeded to determine the production capacity of the field from 1 January 2009 onwards. In order to do so he "analyzed the **decline rate** of the field and carried out an analysis to determine how many **additional wells could be drilled** in the Base Area and the Reserve Area, as well as the corresponding **initial production potential** of such wells."[989]

a. Decline Rate

[986] Patiño ER I, **RER-4,** fn. 21.

[987] Patiño ER I, **RER-4,** §§ 17-18.

[988] Tr. (Day 8), 2154:13-19 (Mr. Strickland).

[989] **RER-4**, § 19; ICSID Consolidated Patiño Report, §§ 22 (emphasis added). The Tribunal notes that the Claimants' expert Mr. Stickland is critical of the methodology followed as a whole as well as the estimations made in respect of the decline rates and the number of new wells. It appears however that Mr. Strickland does not dispute the initial potential production of the new wells. Strickland Second Report, §§ 3, 5, 11. Strickland ICSID Consolidated Report; §§ 91-95.

650. First, Mr. Patiño notes that the Claimants have not undertaken a decline rate analysis. Rather, they state that the Composite Economic Model assumes a decline rate of 10-12%. However, the Respondents' state that none of the contemporaneous documents prepared by the Petrozuata Project actually support this low decline rate. Rather they all predict a decline rate closer to 20%.[990] Mr. Patiño states that based on his analysis of the Petrozuata field, the appropriate decline rate for the wells at the Petrozuata field is approximately 22%.

651. In order to arrive at the abovementioned decline rate, Mr. Patiño conducts a well-by-well decline study to determine which wells will be appropriate candidates for the decline rate analysis. Based on his study, Mr. Patino arrives at a sample size of 124 wells.[991] Then for each well, he determines whether the decline behavior of the well is exponential, hyperbolic or harmonic.[992] Based on this analysis, Mr. Patino concludes that the most appropriate decline function to use for <u>all the wells</u> that are likely to be drilled at the Petrozuata field over the entire term of the Project is the exponential function.[993] Having determined the best decline function, Mr. Patino performs a statistical analysis and concludes that a decline rate of 22% is the most appropriate rate to use for all wells of the field for the entire term of the Project.[994]

652. In response to the Claimants' criticism that an advanced decline curves methodology should have been used to predict the production volumes at the Petrozuata field, Mr. Patino submits that he analyzed the various components of the advanced decline curve methodology and determined that the "accumulated production figures" that were derived using this analysis very closely matched the production figures arrived at using Mr. Patino's methodology and an exponential decline rate of 22%.[995] The

[990] R-PHB, §§ 648-649; Figuera, WS 1, **RWS-2**, **App. 102**; Figuera, WS 1, **RWS-2**, **App. 103**; Figuera, WS 1, **RWS-2**, **App. 152**; Figuera, WS 1, **RWS-2, App. 153**.

[991] For this purpose, Mr. Patiño selects wells that have been in production for six years or more and do not present erratic behavior. **App. 23**, Summary of Wells for the Decline Analysis of Petrozuata Production, June 2014; **Appendix 45**, Graphs and Data for each Well at Petrozuata in the Decline Study. It appears that his analysis focused on only 124 of the 145 wells because 21 of the wells showed decline rates greater than 30%, which in his view was indicative of very specific characteristics that could not be generalized across all wells. He further notes that almost 15% of the wells that met the initial criteria for his decline study (the vast majority of which were drilled prior to the nationalization) exhibited decline rates that exceeded 30%. *See* **Annex I**, First ICSID Expert Report, § 91, n. 51. He further notes that wells that were drilled and connected to production in 2009 now have six years worth of production history, and 20 of those wells did not behave erratically. The data relating to those wells reflect that 19 decline exponentially at an average decline rate of 25.2%. *See* **Appendix 74**, Graphs and Data for the Decline Study for the Wells Connected in 2009 at Petrozuata.

[992] Exponential decline rate is represented by a steady rate of decline whereas a Hyperbolic decline rate is an initial steep decline followed by a more gentle slope decline (i.e. represented on a graph as a hyperbolic curve).

[993] Consolidated Report, § 28.

[994] *Id.* He applies the decline rate to the production capacity as opposed to plotting the decline rate of each well that contributes to production, as this figure is variable at any particular moment in time.

[995] Patiño ER I, **RER-4**, Patiño App.52.

Respondents point to the fact that Mr. Strickland confirmed at the Hearing that Mr. Patino's calculations in this respect were accurate.[996]

653. In response to the criticism that Mr. Patino allegedly conflated exponential and hyperbolic wells, the Respondents submit that the entire point of Mr. Patino's analysis – which Mr. Strickland missed – was to derive a decline rate that could be applied to all of the wells at the field over the entire term of the Petrozuata Project.[997]

654. Moreover, Mr. Patino also seeks to demonstrate that even if Mr. Strickland's above criticism were to be accepted and different decline rates were applied to existing and new wells – i.e. lesser decline rates for the existing wells as they were drilled in the best locations and higher decline rates for the new wells as they were drilled in less favorable locations – the average decline rate would result in total production volume which was only 13.8 million barrels more than the production volume obtained through a 22% exponential decline rate.[998]

655. In sum, the Respondents conclude that:

> No amount of technical jargon relating to "advance decline curves" or the differences between exponential and hyperbolic decline functions can change the reality that the Petrozuata field was declining at a steep rate and that every contemporaneous document prepared by the Project estimated that rate to be in the range of 20% per annum.[999]

b. <u>Additional wells</u>

656. Another aspect of the production capacity profile is to determine how many additional well targets were available as of 2009. In that regard, Mr. Patino first reviewed and confirmed that all the wells that were actually drilled and connected from 1 January 2009 to 31 December 2013 actually needed to be built and therefore would have been included in his calculations as well. He then proceeded to determine whether it was possible to drill additional wells beyond those actually drilled by 31 December 2013. In carrying out such an analysis, Mr. Patino considered geological and petrophysical data relating to the field, existing places where such wells could be drilled and finally if these potential wells would have an initial potential production of at least 200 BPD. On this basis, Mr. Patino estimates that there are 262 new well targets available.

---

[996] Tr. (Day 8), 2183:1-2184:20 (Mr. Strickland).

[997] **RER-8**, § 33.

[998] **RER-8**, §§ 37-38; Tr. (Day 8), 2317-2319 (Mr. Patiño).

[999] R-PHB, § 660.

657. Mr. Patino further notes that "[i]n total, with the 373 wells drilled and connected to production through January 1 2009, the 12 wells drilled in 2008 that [presumably] would have been completed and connected at the beginning of 2009, the 262 new wells located in his review of the data and maps, the 68 single-lateral wells that [he] determined could be drilled to exploit production blocks previously being drained by failed multilateral wells and the 42 "re-drill" single lateral wells, [his] production capacity program assumes a total of 757 wells".[1000]

c. *Initial potential production*

658. Mr. Patino assessed the geological and petrophysical characteristics of the Petrozuata Field, the particular locations where new wells could be drilled as well as the production tests of neighbouring wells, and arrived at initial potential production rates for each of the new wells that he had identified would be constructed during the life of the Project.[1001]

659. The Claimants' expert, Dr. Strickland originally claimed that the initial potential production rate for the new wells at Petrozuata had been underestimated by about 16%. However, it appears that Dr. Strickland now concedes that Mr. Patino's calculations were accurate.[1002]

660. Based on the above data, Mr. Patino's findings are summarized below:[1003]

Year	Wells Directed at New Targets	Replacement Wells	Total New Wells	Beginning of Year Production Capacity (BPD)	EHCO Production to Upgrader		CCO	
					(BPD)	(MBBL)	(BPD)	(MBBL)
2009	29	14	43	118,189	105,501	38,508	90,953	33,198
2010	17	18	35	119,975	69,021	25,192	59,503	21,718
2011	13	5	18	116,261	76,637	27,972	66,068	24,115
2012	18	5	23	114,108	107,674	39,409	92,826	33,974
2013	18	5	23	108,827	94,262	34,405	81,263	29,661
2014	17	6	23	104,813	82,351	30,058	70,995	25,913

1000 Patiño ER I, **RER-4**, § 29, fn. 63; R-PHB, § 679 (He states that this figure is the sum of the 373 wells that were drilled and connected as of January 1, 2009, the 12 carry-over wells, and the 320 wells mentioned in the text. It should also be noted that over the life of the Petrozuata Project, approximately 420 single lateral horizontal wells would be drilled. Some of those wells would fail and a replacement well could be drilled using the same surface hole. In the case of Petrozuata, one can assume that approximately 10% of the single-lateral wells (42 in total) would be re-drilled over the life of the project, from 2009 through about 2025, at which point any wells that failed would likely not be re-drilled because of their low (below 50 BPD) production. Thus, with the single-lateral re-drills, the grand total of wells drilled over the life of the Petrozuata Project, was 747 wells).

1001 Patiño ER I, **RER-4**, §§ 30-31.

1002 Strickland ER, **CER-6,** § 76; Strickland ICSID Consolidated Report, §§ 91-95.

1003 Patiño ER I, **RER-4**, § 54.

2015	22	5	27	97,626	70,592	25,766	60,858	22,213
2016	21	5	26	99,267	74,533	27,279	64,255	23,517
2017	22	5	27	98,285	86,829	31,692	74,855	27,322
2018	25	-	25	93,010	81,946	29,910	70,646	25,786
2019	29	-	29	84,470	74,525	27,202	64,248	23,451
2020	31	-	31	77,809	56,630	20,727	48,821	17,868
2021	-	-	-	72,583	60,036	21,913	51,757	18,891
2022	-	-	-	58,866	48,445	17,682	41,765	15,244
2023	-	-	-	47,110	38,689	14,121	33,353	12,174
2024	-	-	-	37,610	26,218	9,596	22,602	8,272
2025	-	-	-	31,052	25,511	9,312	21,993	8,028
2026	-	-	-	24,815	20,383	7,440	17,572	6,414
2027	-	-	-	19,807	16,250	5,931	14,009	5,113
2028	-	-	-	15,766	10,955	4,010	9,444	3,457
2029	-	-	-	12,853	10,423	3,804	8,986	3,280
2030	-	-	-	9,907	7,931	2,895	6,837	2,496
2031	-	-	-	7,424	5,869	2,142	5,060	1,847
2032	-	-	-	5,414	3,626	1,327	3,126	1,144
2033	-	-	-	3,981	3,105	1,133	2,677	977
2034	-	-	-	2,826	2,203	804	1,899	693
2035	-	-	-	2,000	1,556	568	1,342	490
2036	-	-	-	1,411	1,444	149	1,245	128
Total	262	68	330	[redacted]	[redacted]	460,950	[redacted]	397,385

661. He concludes that the volume of EHCO that would be produced at the Petrozuata Project using cold production techniques would total 848.4 million barrels from the outset of the Project through the end of its original term in April 2036, with 461 million barrels being produced starting on January 1, 2009.[1004]

The Hamaca Project

662. The Respondents undertake a similar analysis in relation to the Hamaca Project.

663. <u>Production capacity as of 1 January 2009</u>: Mr. Patiño determines that as of 1 January 2009, a total of 325 wells had been drilled, completed and connected at the Huyapari field of the Hamaca Project. Of these 266 were active wells and 43 were wells that could be brought back into service with minor repairs. Further, 32 additional wells were in the process of being drilled. These 32 wells would be completed and connected to the production facility in 2009. Based on the production data available, Mr Patiño concludes that as of 1 January 2009, the production potential of the above wells is 201,200 BPD.[1005] Mr. Strickland does not dispute this figure.[1006]

[1004] Patiño ER I, **RER-4,** § 10; R-PHB, § 680.

[1005] Patiño ER I, **RER-4**, §§ 36-37; R-PHB, § 758.

[1006] Tr. (Day 8), 2154:20-2155:22 (Mr. Strickland).

664. Production capacity from 1 January 2009 onwards: as with the Petrozuata Project, Mr. Patiño proceeded to determine the production capacity of the field from 1 January 2009 onwards by determining the (i) decline rate; (ii) the additional new wells that would need to be drilled; and (iii) initial production capacity of these wells.

a. *Decline Rate*

665. Mr. Patino performs the same well-by-well decline analysis and arrives at a sample set of 65 wells that meet his relevant criteria, namely, six years or more of production history without erratic behaviour.[1007] Next, he identifies the points in time when the decline period of each well would begin and whether the decline would be exponential, hyperbolic or harmonic in nature. As with the Petrozuata Project, Mr. Patino concludes that the appropriate decline function to be applied to all the wells would be exponential and the appropriate decline rate for the wells at the Huyapari field is 24%.[1008]

666. As with the Petrozuata Project, Mr. Patino sought to determine the decline rate for all the wells at each field. In any event, Mr. Patino submits that if he were to apply different decline rates to old wells and new wells, then the accumulated production over the life of the Hamaca Project would actually be 1.8 million barrels less than the production volumes arrived at using his methodology of a single exponential decline rate.[1009]

b. *Additional wells*

667. In the same manner in which he had analyzed the data for the Petrozuata field, Mr. Patino analyzed the data for the Huyapari field to determine how many additional wells could be drilled during the term of the Hamaca Project in order to maintain overall production capacity at the field at 110% of the actual or projected CCO sales. Mr. Patino concluded that in addition to the 357 wells that were drilled through December 2008, an additional 754 new wells could be drilled at the Huyapari fields, with varying initial production potential rates.[1010]

c. *Initial potential production*

[1007] He however eliminated around 10 wells, which exhibited a decline rate of more than 30%. Thus, the sample size is actually 55 wells.

[1008] Patiño ER I, **RER-4**, § 39; Appendix 44; **RER-8**, § 33.

[1009] Patiño ER II, **RER-8**, §§ 37-38, 672; Tr. (Day 9), 2318:1-2319:20.

[1010] Patiño ER I, **RER-4**, §§ 43-44, 57-59.

668. Lastly, Mr. Patino determined the initial potential production of the wells at the Huyapari field. His analysis revealed that they fell into three broad groups: "(i) the 2001-2009 wells were located in the best sands of the field, and therefore tended to have the highest average initial potential production; (ii) the 2010-2013 wells had a lower average initial potential production; and (iii) the remaining wells as of December 31, 2013 were projected to have an average initial potential production that was lower still."[1011] As with the Petrozuata Project, Mr. Strickland does not dispute Mr. Patino's initial potential production calculations.[1012]

669. Based on the above data, Mr. Patino's findings are summarized below:[1013]

Year	Wells Directed at New Targets	Beginning of Year Production Capacity (BPD)	EHCO Production to Upgrader		CCO	
			(BPD)	(MBBL)	(BPD)	(MBBL)
2009	-	201,200	115,385	42,116	109,270	39,884
2010	29	177,768	144,706	52,818	137,036	50,018
2011	41	156,771	137,275	50,105	130,000	47,450
2012	43	159,843	72,747	26,625	68,891	25,214
2013	43	159,074	136,353	49,769	129,127	47,131
2014	44	158,419	153,203	55,919	145,084	52,955
2015	42	158,097	148,377	54,158	140,513	51,287
2016	42	159,668	119,134	43,603	112,344	41,118
2017	51	160,647	143,432	52,353	135,256	49,368
2018	63	158,676	137,930	50,344	130,068	47,475
2019	63	161,139	143,432	52,353	135,256	49,368
2020	84	161,650	119,134	43,603	112,344	41,118
2021	84	159,828	143,432	52,353	135,256	49,368
2022	82	159,999	137,930	50,344	130,068	47,475
2023	43	158,209	143,432	52,353	135,256	49,368
2024		159,187	117,058	42,843	110,386	40,401
2025	-	144,175	118,473	43,243	111,720	40,778
2026	-	115,082	93,278	34,046	87,961	32,106
2027	-	91,927	75,344	27,501	71,050	25,933
2028	-	73,009	50,540	18,498	47,659	17,443
2029		59,923	48,907	17,851	46,119	16,833
2030		47,096	38,293	13,977	36,110	13,180
2031		36,660	29,675	10,831	27,983	10,214
2032		28,236	19,092	6,988	18,004	6,589
2033		21,821	17,221	6,286	16,240	5,928
2034		15,823	12,334	4,502	11,631	4,245
2035		11,144	8,608	3,142	8,117	2,963
2036		7,717	5,932	2,171	5,594	2,047
2037		5,288	4,913	928	4,633	876
Total	754	[redacted]		961,622	[redacted]	908,136

1011 Patiño ER I, **RER-4**, §§ 45-46; Appendix 6, Appendix 15, App. 18, App. 11. App. 12; App. 78

1012 Strickland ER,**CER-6**, § 76; Strickland ICSID Consolidated Report, §§ 91-95.

1013 Patiño ER I, **RER-4**, § 61.

670. Mr. Patino concludes that "from the inception of the Hamaca Project through [2037], when its term would have expired under the Hamaca Association Agreement a total of 1,269.8 million barrels of EHCO would be produced using cold production techniques" with approx. 961 million barrels being produced starting 1 January 2009.[1014]

iii. The Tribunal's determination

671. In light of the Parties' above submissions, the Tribunal considers that with respect to the production profiles proposed by each of the Parties, the following issues arise for its consideration:

i. Which of the two competing production forecasts better reflects the production volumes that could have been achieved but-for the Expropriaton?

ii. If the answer to the above is the Respondents production profile, then what production volumes should be adopted for the period June 2007 to December 2008?

iii. What production volumes should be adopted for the historical period i.e. 1 January 2009 – December 2015?

iv. What production volumes should be adopted for the projection period i.e. 1 January 2016 onwards?

a) What is the applicable decline rate for each of the Petrozuata and Hamaca Projects?

b) What are the total number of additional wells that would have been drilled at the Petrozuata and Hamaca Project and what would their production have been?

(1) Which production forecast should be adopted?

672. As to this issue, the Tribunal is of the view that a post-Expropriation production profile that takes into account actual production figures should be adopted in the instant case.

[1014] R-PHB, § 761; Patiño ER I, **RER-4**, §§ 49, 63.

673. First, the Tribunal agrees with the Respondents that a date of award or *ex post* valuation should take into account actual post-nationalization information about the Projects, unless the Tribunal finds for any reason that such information is either unreliable or has not been sufficiently proved. The Tribunal considers that in large oil exploitation projects such as the present, there are likely to be several variables that cannot be accounted for in any business projection and which would impact the Project as a matter of course. As such, the Tribunal is unable to agree that the 2006 production figures are the best evidence of the Projects' production capacity for the next 20-30 years. Thus, generally, the Tribunal is not persuaded by the Claimants' reliance on pre-Expropriation forecasts to establish their production figures. However, it remains to be seen whether any of the Claimants' other objections are capable of impugning the Respondents' production forecasts. In particular, the Tribunal shall assess whether the Claimants have demonstrated that the Projects performed less profitably because of the Respondents.

674. In this respect, the Tribunal finds that the Claimants' arguments do not withstand scrutiny. Largely, the Claimants have once again sought to raise the specter of the "new PDVSA" to challenge the trustworthiness of the Respondents' forecasts. However, as established elsewhere in this Award, there is no "new PDVSA" any more than there was an "old PDVSA".[1015] Namely that, as the Claimants themselves recognize, PDVSA was and remains a wholly State-owned entity, which pursuant to its By-laws is required to comply with and implement the policies and decision of the Government.[1016] The Claimants' attempt to suggest that under the Chávez administration, PDVSA acquired a new persona that had different and purportedly non-commercial objectives is unsubstantiated. In fact, the Tribunal finds the argument rather counter-intuitive. Indeed, if PDVSA's objective was to be a "cash cow" and fund the Government's various social programs as the Claimants allege, it would be incentivized to maximize its profits from the Projects, as opposed to putting the very source of its revenues into jeopardy.

675. Similarly, the argument that PDVSA suffered a loss of its oil intelligentsia is also far-fetched. No doubt, several employees were dismissed in 2003. However, the Tribunal finds it difficult to agree with the Claimants that the dismissal of these employees was a cause for drop in production. It appears that from 2003 to 2007, the Projects continued to function with PDVSA personnel and at no point during these years have

[1015] *Supra*, §§ 398-399.

[1016] *Supra,* §§ 470-472.

the Claimants complained of any incompetence on the part of such personnel involved in the Projects.

676. As regards the Claimants' reliance on the investigation carried out at the instruction of the National Assembly of Venezuela and the findings made in the Report, the Tribunal determines that these findings were not specific to any purported transgression at either the Petrozuata or Hamaca Projects. In the circumstances, the Tribunal cannot draw an adverse inference as to the reliability of the Respondents' production figures.

677. Thus, the Tribunal concludes that the Respondents' production profile, i.e. one which takes into account actual volumes, should be adopted. However, the Tribunal notes that the Claimants have raised several objections to various aspects of the Respondents' production profile and the methodology adopted by the Respondents' experts in order to forecast production for the historical and projection periods. Thus, if the Tribunal were to find that the Claimants' arguments in this respect withstand scrutiny, it would have to consider the implications thereof on the production figures proposed by the Respondents.

678. Therefore, the Tribunal shall next consider these objections with a view to determining whether the Respondents' production figures can be adopted for each of the historical and projection periods, namely:

a. The period from 26 June 2007 – December 2008;

b. The period from 1 January 2009 – December 2015;

c. The period from 1 January 2016 till the end of the term of each Project.

(2) Which production volumes should be adopted for the period 26 June 2007 – December 2008?

679. With respect to the production volumes for the period June 2007 to December 2008, the Tribunal finds that the Claimants have not raised any specific objections to the actual volumes of EHCO proposed by Mr. Figuera in his testimony. Rather, the general objections to adopting post-Expropriation figures apply in respect of this period as well. Given that the Tribunal has already concluded that these objections do not withstand scrutiny,[1017] the Tribunal is persuaded by the Respondents' position and

[1017] *Supra,* §§ 672-677.

thus finds that the actual production volumes for June 2007 to December 2008 as proposed by the Respondents should be adopted.

(3) Which production volumes should be adopted for the remaining historical period?

680. For the remaining historical period, the Claimants object to the Respondents' exclusion of approximately 97 million barrels of actually produced EHCO on the basis that these volumes constituted non-upgraded and blended products that the Associations were allegedly not permitted to produce.[1018] According to the Claimants, such exclusion is worth approximately USD 7.5 billion.[1019]

681. Relying on the testimony of Mr. Figuera and two letters of 23 June 2005 from the then Minister of Energy (one addressed to each Project),[1020] the Claimants argue that there is no basis for excluding such additional volumes of EHCO because the pre-Expropriation Projects produced and sold non-upgraded products.[1021]

682. Having examined Mr. Figuera's testimony, as well as the 23 June 2005 letters to the Projects, the Tribunal is unable to accept the Claimants' arguments. It is not disputed by the Respondents that, pre-Expropriation, the Projects produced and sold non-upgraded products.[1022] However, as developed further below, this does not mean that the Projects were entitled to legally characterize the sale of non-upgraded or blended products as sales falling under the AAs.

683. In his testimony at the Hearing, Mr. Figuera confirmed that, although the Projects did produce and commercialize non-upgraded products, they did so in very specific and limited circumstances, namely (i) prior to the commissioning of the upgrader, i.e. during the development or pre-operation phases of the Projects (which ended in April

[1018] *Supra,* §§ 620-621.

[1019] C-PHB*,* fn. 1137.

[1020] Letters from the Minister of Energy to Petrozuata and Hamaca, 23 June 2005, **RWS-1 Mommer App. 1.**

[1021] C-PHB, § 671.

[1022] SoD, fn. 348; Mommer WS I, **RWS-1**, §§ 4-7, 46-51 (The Projects did not allow production and blending of extra-heavy crude oil without upgrading, known as "early" or "development" production. Notwithstanding the lack of authorization for such early or development production, the Project did produce and blend extra-heavy crude oil for sale without upgrading, thereby improving Conoco's economics by providing the Project with cash flow before the upgrader was completed). Mommer WS I, **RWS-1**, §§ 34-39; Letter from Vice Minister Mommer to Mr. Berry of ConocoPhillips, 26 April 2005, **RWS-1 Mommer App. 26**, p. 1 (Dr. Mommer put Conoco on notice that the Ministry considered such development production to have been illegal, stating: "We can negotiate in good faith a settlement of these claims, and you can either pay a one-time bonus or the settlement amount can be recovered through an increased royalty going forward"). *See* also Tr. (Day 5), 1214:12 – 1230:11 (Mr. Figuera).

2001 and October 2004 for Petrozuata and Hamaca, respectively); or (ii) subject to governmental approval, during the upgraders' maintenance turnaround periods.[1023]

684. The above is hardly surprising. Lacking a functioning upgrader, the need to produce and sell non-upgraded and blended EHCO appears to be quite sensible. For instance, the Hamaca AA notably provides that, before the completion of the upgrader, the RNCF necessary to determine the MAE resulting from a DA must consider a limited "Development Production" (i.e. non-upgraded EHCO).[1024] Further, the Claimants expressly requested authorization to the Ministry of Energy to produce and commercialize non-upgraded blended crude during the turnaround periods.[1025]

685. Aside from these two specific circumstances, neither of the Projects were authorized to obtain revenues from the production and sale of non-upgraded and blended EHCO. The June 2005 Ministry letters to the Projects were clear in this regard. In relevant parts, the letter to the Hamaca Project states:[1026]

> I hereby inform you that this Office has proceeded to review the terms of the exploitation of the Orinoco Oil Belt's extra-heavy crude, by [the Hamaca Project]. From the aforementioned review, emerge the following conclusions, as well as the adoption of the measures they require:
>
> FIRST: The […] Congress of the Republic of Venezuela, […] in its First and Tenth Conditions, granted to th[e Hamaca] Association the **exploitation of the reserves of extra-heavy crude and its upgrading**, as well as the **marketing of the upgraded crude** and the use, sale or distribution of all associated gas and other products. Likewise, in the Tenth Condition, it agreed to the blending of extra-heavy crude with other appropriate hydrocarbons for its **transport and handling in the Production of Development.**
>
> SECOND: In the Bicameral Commission's Report, **HAMACA's production was planned at 197 MBD**, […].
>
> THIRD: The blending of extra-heavy hydrocarbons is only envisaged in the pre-operating phases, **but not in subsequent exploitation phases**. The blending of extra-heavy hydrocarbons during the periods which correspond to the plant shut-down is not authorized in the decision of the Congress […] and in the Bicameral Commission's Report.

[1023] Tr. (Day 5), 1214:1 – 1232:30 (Mr. Figuera)

[1024] Hamaca AA, **C-3**, Articles 6.2, 14.2(f); R-PHB, fn. 1731; Tr. (Day 2) 290:4 – 292:3, 388:18 – 389:14 (Mr. Manning).

[1025] Figuera, WS 1, **RWS-2, App. 174 (**Letter from Domingo Rodríguez, President of Petrolera Ameriven, S.A. to Rafael Ramírez, Minister of Energy and Petroleum, 31 March 2006). "Considering that during the turnaround, the production of diluted crude oil does not contemplate upgrading activities, therefore, I am requesting, on behalf of the Participants of the Project, your authorization to formalize this strategy in our business plan, and proceed with the required activities, which we are convinced, will generate benefits for all parties".

[1026] Letter from the Minister of Energy to Petrozuata and Hamaca, 23 June 2005, **RWS-1 Mommer App. 1** (emphasis added).

FOURTH: The activities carried out or the situations created during the exploitation of extra-heavy crude in the Orinoco Oil Belt that exceed the limit of the decision of the Congress of the Republic, shall be considered outside the framework of that decision. Accordingly, it shall be understood that the aforementioned activities and situations are subject to the provisions of the law in force, especially to those [provisions] of [2001 Hydrocarbons Law].

FIFTH: In accordance with what has been stated above, the volumes of **hydrocarbons that exceed the monthly average production of 197 MBD are subject to the thirty per cent (30%) royalty** set forth in Article 44 of the above [2001 Hydrocarbons Law]. The same royalty amount shall be paid in cases of the volumes related to the blending of extra-heavy crudes.

[…]

Payment of the above mentioned royalty does not legitimize the excesses identified and, accordingly, does not imply an authorization for the indicated activities or created situations.

686. In materially identical terms, the letter to the Petrozuata Project reads as follows:[1027]

I hereby inform you that this Office has proceeded to review the terms of the exploitation of the Orinoco Oil Belt's extra-heavy crude, by [the Petrozuata Project]. From the aforementioned review, emerge the following conclusions, as well as the adoption of the measures they require:

FIRST: The then Congress of the Republic of Venezuela, on August 10, 1993, in its First Condition, granted to that association the exploitation and upgrading of the Orinoco Oil Belt's extra-heavy crudes and the marketing of such upgraded crudes.

SECOND: In the Bicameral Commission's Report, PETROZUATA's production **was planned at 120 MBD** […].

THIRD: The blending of extra-heavy hydrocarbons in any of the exploitation phases, including the plant shut-down, is not envisaged in either the decision of the Congress of the Republic or the Bicameral Commission's Report. […].

FOURTH: The activities carried out or the situations created during the exploitation of the Orinoco Oil Belt's extra-heavy crude that exceed the limit of the decision of the Congress of the Republic, **shall be considered outside the framework of that decision**. Accordingly, **it shall be understood that the aforementioned activities and situations are subject to the provisions of the law in force, especially to those [provisions] of the [2001 Hydrocarbons Law]**.

FIFTH: In accordance with what has been stated above, **the volumes of hydrocarbons that exceed the monthly average production of 120 MBD are subject to the thirty per cent (30%) royalty set forth in Article 44 of the [2001 Hydrocarbons Law]**. The same royalty amount shall be paid in cases of the volumes related to the recovered associated gas and the blending of extra-heavy crudes.

The periods of plant shut-down shall not be used for the calculation of the aforementioned monthly average.

[1027] Letter from the Minister of Energy to Petrozuata and Hamaca, 23 June 2005, **RWS-1 Mommer App. 1** (emphasis added).

> **Payment of the above mentioned royalty does not legitimize the excesses identified and, accordingly, does not imply an authorization for the indicated activities or created situations.**
> […]

687. According to the Claimants, the above letters were only a "tax bill" which recognized and accepted that the Projects were producing non-upgraded products. In their view, these letters implicitly recognize that the Projects could produce non-upgraded products.

688. The Tribunal cannot follow the Claimants' interpretation. While the two 23 June 2005 letters may be said to impose a "tax bill", they certainly did not provide an authorization or recognition of the Projects' right to produce non-upgraded or blended products. Importantly, the letters clearly recognize that the Congressional Authorizations only authorized the Projects to exploit EHCO and to market upgraded crude (i.e. CCO). Blending was only permitted in the *pre-operating* phases and not in the subsequent *exploitation* phases. Additionally, the production volumes were limited to 197,000 BPD of EHCO for the Hamaca Project and 120,000 BPD of EHCO for the Petrozuata Project.

689. In light of these restrictions, the excess EHCO produced would not fall within the ambit of either the PCA or the HCA and thus could not be considered as crude produced pursuant to the rights under the AAs or subject to the fiscal regime applicable to the AAs. To the contrary, it appears that the excess EHCO would be subject to general applicable law and not subject to the special protection created by the AAs. To paraphrase the language used in the 23 June 2005 letters, the acknowledgment by Venezuela that there were excess EHCO volumes produced, did "not legitimize the excesses …. [nor] imply an authorization for the indicated activities or created situations" under the AAs.

690. In the circumstances, the Tribunal finds that the Projects were only allowed to produce a certain quantity of EHCO, which was then to be upgraded to CCO. Apart from the development phase (which ended in 2004 at the latest), the Projects were not allowed to produce excess volumes of EHCO or sell it in non-upgraded form. In the event they did so, such EHCO cannot be considered as EHCO produced pursuant to the AAs. Accordingly, even if the Projects indeed produced and sold excess blended EHCO prior to the Expropriation, such production cannot be deemed production under the AAs. As such, it cannot therefore contribute to the production

volumes under the AAs in a but-for application. This is particularly the case under the Hamaca AA, which explicitly states that only the production volumes of upgraded crude oil (i.e. CCO or "Commercial Production") must be compensated to the Claimants pursuant to DA provisions.[1028] Thus, in respect of the historical period, the Tribunal considers it appropriate to adopt Mr. Patino's estimates of EHCO volumes.

(4) What production volumes should be adopted for the projection period?

691. The Parties agree that the crux of the dispute concerning the projection period pertains to the decline rate analysis.[1029]

692. In this regard, the Claimants object to the fact that Mr. Patino conflated exponential and hyperbolic wells and applied the same exponential decline rate for forecasting production from all wells. The Claimants' expert, Mr. Strickland accounts for decline rates of exponential and hyperbolic wells separately.

693. In light of the testimony of the Parties' experts at the Hearing however, the Tribunal finds the Claimants' objection to the Respondents' decline rate analysis overstated. First, during the Hearing, the Claimants' expert, Mr. Strickland admitted that if the Tribunal were to apply his decline rates and the additional wells proposed by him (i.e. 22 for Petrozuata and 20 for Hamaca), the production volumes would increase by an additional 18 million barrels for each Project.

> **Q.** [...] if we include your additional 22 wells at Petrozuata, and the same thing at Hamaca, with 20 wells, it's an additional 18 million barrels of production?
>
> **A.** That's correct.

[1028] R-PHB, § 812. The Tribunal notes that Mr. Manning recognized that the compensation formula of the Hamaca AA is based exclusively on "Commercial Production"; Tr. (Day 2) 388:18 – 389:14 (Mr. Manning) ("**Q.** Well, let's look at Article 14.2(f). Do you see that? **A.** Yes. **Q.** Okay. You see that formula? **A.** Uh-huh. **Q.** Is that what would that apply? **A.** 14.2(f). Yes. **Q.** Okay. And you see a definition of SR? **A.** Yes. **Q.** Okay. And that's--Development Production we established a long time ago--remember?--was that production of extra-heavy during that period. Do you remember that? **A.** Mm-hmm. **Q.** Okay. We're not in that period right now. **A.** Right. **Q.** So, now we're talking about Commercial Production. **A.** Okay. […] **Q.** Right. So, you see the formula is based exclusively on Commercial Production, isn't it? **A.** Well, we're past Development Production, so it has to be Commercial Production");

In turn, the Tribunal also notes that Mr. Heinrich conceded that the term "Commercial Production" means the "production at the tail end of the upgrader" (i.e. "upgraded crude oil"); Tr. (Day 2) 665:17 – 666:13 (Mr. Heinrich) ("**Q.** Do you have any understanding of Section 14.2(f), 18 which is the basic Threshold Cash Flow formula and 19 Reference Cash Flow formula that your Planning Group was 20 undoubtedly modeling? **A.** Yes. **Q.** You do have an understanding? **A.** Yes. **Q.** Okay. Do you have an understanding that SR, the first step in this formula, is, at this point in time, based on--that's the revenue part--based on Commercial Production? You understand that; right? **A.** Yes. **Q.** And you know what Commercial Production is **A.** Yes. **Q.** What is it? **A.** That's the production--at the tail end of the upgrader. **Q.** So, it's upgraded crude oil; right? **A.** Yes.")

[1029] Tr. (Day 8), 2156:3-10 (Mr. Strickland) (**Q**: […] And at the end of the day, the biggest difference between you and Mr. Patiño is decline rate; right? **A.** That's correct. […] [T]hat's half of it. Then the other half is the methodology--well, I guess you could lump it all into decline rate).

> **Q.** And all that is based upon your decline rates as opposed to Mr. Patiño's decline rates?
>
> **A.** [...] Yes.
>
> **Q**. So, if Mr. Patiño's decline rates were to be accepted by the Tribunal and applied to additional wells that they accepted from you, it would be less than 18 million barrels for each of those fields?
>
> **A.** That's correct.[1030]

694. Moreover, Mr. Patino also assessed the production volumes on the basis of Mr. Strickland's approach and determined that the accumulated production for the life of the Petrozuata Project would be only 13.8 million barrels higher than the production obtained using a single exponential decline rate of 22% proposed by Mr. Patino.[1031] Similarly, with respect to the Hamaca Project, the accumulated production based on Mr. Patino's decline rate of 24% was in fact 1.8 million barrels more than the production volumes arrived at on the basis of Mr. Strickland's methodology.[1032] The Tribunal finds that these figures are not drastically different such that they would call into question the methodology followed by the Respondents and the productions volumes which they propose for the projection period.

695. In these circumstances, the Tribunal deems it appropriate to adopt the Respondents' production figures even for the future period.

696. All in all, the Tribunal finds that for both the Petrozuata and the Hamaca Projects, the production volumes as modeled by the Respondents' experts may be adopted.

1030 Tr. (Day 8), 2158:4-18 (Mr. Strickland).

1031 R-PHB, § 672.

1032 R-PHB, §§ 756; Tr. (Day 9), 2318:6-2319:14 (Mr. Patiño). At the Hearing, with reference to slides 35 and 36 of his presentation, Mr. Patiño explained as follows" "In this case, I addressed Dr. Strickland's criticism that I conflated exponential and hyperbolic decline rates with an additional analysis. First, I calculated equivalent exponential decline rates for all the wells in my analysis that declined hyperbolically. Then, I averaged those equivalent exponential decline rates with exponential decline rates and the result was 17.3 for Petrozuata and 18.7 for Hamaca, both exponentially. Finally, I applied this average to all the wells in my Production Capacity Programs as I did in my initial analysis. Logically, this increased accumulated production; however, it also ignored the fact that the wells drilled at the outset exhibit a more favorable decline behaviour and would not be representative of the wells that would be subsequently drilled at the fields. For these reasons, I also carried out a hybrid method. In this case, I applied the average I referred to above, 17.3 percent at Petrozuata and 18.7 at Hamaca, to the wells that were in production as of January 2009. To new wells connected to production thereafter, I applied the decline rate that I derived from my analysis of the wells that were connected to production in 2009. And I estimated 25 percent at Petrozuata and 27.3 percent at Hamaca. As can be seen in this table, the result of the hybrid methodology regarding accumulated production is basically the same to the one I obtained using my original analysis, that is, using a single decline rate of 22 exponential at Petrozuata and 24 percent at Hamaca. This exercise corrects the mistake indicated by Dr. Strickland, and these results confirm the rates that I originally derived using my petroleum engineering judgment."

b. *Reserves figures*

i. *The Claimants' position*

697. It is the Claimants' case that the reliability of their pre-Expropriation production forecasts is corroborated by the Respondents' own Proved Reserves figures for each Project. The Claimants first explain that Proved Reserves figures constitute the most important data for determining expected production volumes.[1033] Adopting the Respondents' own definition of Proved Reserves, the Claimants submit that Proved Reserves are "hydrocarbon volumes estimated with **reasonable certainty** and recoverable from known oil fields according to the available geological and engineering information and under **prevailing** operating and economic conditions and government regulations".[1034] To put it simply, Proved Reserves are a measure of the volume of oil that can be expected to be recovered **with reasonable certainty** [a probability of 90% or higher] from specific oil fields under existing and known geological and technical circumstances.[1035]

698. In light of the above understanding, the Claimants contend that first, according to the statistical data published by the Ministry, the Proved Reserves for the Petrozuata Project ("Petrozuata Proved Reserves") have been substantially increasing since 2006. In 2007, the Ministry reported the Petrozuata Proved Reserves to be 3.1 billion barrels and as of 2010 the figure had increased to 3.9 billion barrels of EHCO.[1036] Both these figures are substantially higher than the oil volume proposed by Mr. Abdala.

[1033] Reserves are divided into 3 categories: Proved (1P), Proved plus Probable (2P), and Proved plus Probable plus Possible (3P). Proved Reserves represent the estimate for "actual production" from a given field and hence, by their nature are conservative figures. **C-213**.

[1034] **CLEX-91**; According to the Claimants, the US Securities and Exchange Commission, the OPEC (of which Venezuela is a member) and the Respondents adopt functionally identical definitions of Proved Reserves. Accordingly, the Claimants submit that the Proved Reserves reported by ConocoPhillips to the US SEC as part of its regulatory obligations and those estimated by the Respondents are arrived at on the basis of a substantially similar understanding and are therefore comparable for the purposes of validating the Claimants' production forecasts.

[1035] C-PHB, § 633.

[1036] **C-221**, **C-295**, **CLEX-052**. Second, DeGolyer and MacNaughton, an independent consulting firm, certified Petrozuata's Proved Reserves at 1.02 billion barrels of EHCO as of 31 December 2005. Using the 2005 D&M reserves estimate, Abdala calculates implied year-end 2006 proved reserves by subtracting 2006 production from the 2005 D&M reserves. Implied proved reserves as of year-end 2006 were 977 MMBO, which is higher than the composite model's reserves (Abdala ER I, **CER-3,** § 161). Third, in accordance with their regulatory obligations, ConocoPhillips reported Proved Reserves of 936.4 million barrels to the US SEC as at 31 December 2006.

699. Similarly, the Proved Reserves for the Hamaca Project ("Hamaca Proved Reserves") have increased from 3.69 billion barrels in 2006, to 4.6 billion barrels as of 2015.[1037] These figures are also evidently higher than the oil volume of 1.864 billion barrels proposed by Mr. Abdala. Moreover, the Claimants submit that the forecast is also consistent with the Reserves figures of 1.96 billion barrels as of year-end 2006, reported by ConocoPhillips to the US SEC in 2007.[1038]

700. On this basis, it is the Claimants' case that the Respondents' and the Ministry's own Proved Reserves figures undermine their allegations regarding the Hamaca and Petrozuata Project's post-Expropriation production prospects. Instead, these figures confirm "with reasonable certainty" that there is sufficiently recoverable EHCO such that the Claimants' pre-Expropriation production forecast is accurate and achievable.

701. Turning to the Respondents' arguments, the Claimants assert that the "Respondents' attempts to undermine the critical significance of their own Reserves figures is unavailing".[1039]

702. As regards the Respondents' contention that the Ministry's Proved Reserve figures were for the life of the field and not the term of the Project, making them non-comparable, the Claimants submit that the above distinction fails on the Ministry's own definition of "Proved Reserves".[1040] In particular, they assert that as per this definition Proved Reserves are EHCO volumes that are virtually certain to be recovered under "prevailing operational, economic and governmental regulatory conditions".[1041] According to the Claimants, this definition thus refers to volumes that can be recovered *now* and signifies that there is more than sufficient oil in the fields to satisfy the pre-Expropriation production forecasts.[1042]

703. As regards the Respondents' contention that the Ministry and PDVSA's Proved Reserves figures include additional oil volumes that would be recoverable using enhanced oil recovery ("EOR") techniques, and therefore cannot be compared to the

---

[1037] **C-221**, **C-295**, **CLEX-052**. Second, DeGolyer and MacNaughton, an independent consulting firm, certified Petrozuata's Proved Reserves at 1.02 billion barrels of EHCO as of 31 December 2005. Using the 2005 D&M reserves estimate, Abdala calculates implied year-end 2006 proved reserves by subtracting 2006 production from the 2005 D&M reserves. Implied proved reserves as of year-end 2006 were 977 MMBO, which is higher than the composite model's reserves (Abdala ER I, **CER-3,** § 161). Third, in accordance with their regulatory obligations, ConocoPhillips reported Proved Reserves of 936.4 million barrels to the US SEC as at 31 December 2006.

[1038] Abdala ER I, **CER-3**, §§ 127-128; **C-192**, p.9; **CLEX-050**, **CLEX-032**.

[1039] C-PHB, § 654.

[1040] C-PHB, § 644

[1041] **CLEX-91**

[1042] C-PHB, §§ 644-645.

volumes extracted using only cold production or primary extraction techniques which form the basis of the Claimants' calculation,[1043] the Claimants assert that this distinction is baseless and irrelevant.[1044]

704. They contend that the distinction is baseless because if EOR was being implemented at the present time (i.e. in the post-Expropriation actual world); then it would have also been implemented in the but-for world. Moreover, they assert that if the Projects had not been expropriated, the Claimants themselves would have promoted the use of EOR techniques and increased production.[1045]

ii. The Respondents' position

705. According to the Respondents, the Claimants are in fundamental error when they rely on the Ministry and PDVSA's Proved Reserve figures to support their pre-Expropriation production profiles for the Hamaca and Petrozuata Projects.

706. The Respondents assert that the Ministry's Proved Reserves figures project production over the entire life of the **field** and using all viable extraction techniques, namely i.e. cold production as well EOR techniques. By contrast, the Claimants' calculations are based on the production over the life of the **Project** using only cold production techniques.[1046] The Respondents submit that consequently the two are not comparable and the Ministry's figures will always be higher.[1047]

707. Mr. Figuera explains that:

> the Ministry-approved reserves are for the life of the field, not the life of the Project. They therefore assume that over a long period of time, well past the termination date of a project, the well will continue to produce oil, even at lower and lower rates, until an assumed recovery factor is achieved. In addition, the Ministry-approved reserves assume that additional wells that are economically attractive to the country will be drilled in due time, even though those wells

[1043] Figuera, WS I, **RWS-2**, fn. 20 ("Steam-enhanced production techniques (or thermal techniques) are also referred to as secondary recovery or enhanced oil recovery ("EOR") techniques. They are to be distinguished from "cold production" or primary recovery techniques. In the case of the latter, production depends on the field's own energy, which dissipates over time. In the case of the former, steam is injected in the field to create energy, reduce viscosity and generate a higher recovery factor (*i.e.*, the recovery of a higher percentage of the field's original oil in place […]) over time. As discussed in my ICSID Testimonies, drilling and fitting wells for eventual use in a steam-enhanced EOR program is more expensive than drilling cold production wells. The capital and operating costs associated with a steam-enhanced EOR project – which includes steam-generating facilities and water removal and treatment facilities – are also significantly higher than those for a cold production project. *See* **Annex A**, First ICSID Testimony, n. 11; **Annex B**, Second ICSID Testimony, ¶ 27; **Annex D**, Fourth ICSID Testimony, ¶ 52 and nn. 171, 202; **Annex E**, Fifth ICSID Testimony, ¶ 17").

[1044] C-PHB, § 646.

[1045] First Brown Statement, § 53-55; C-PHB, § 648.

[1046] Tr. (Day 12), 3058-3060 (Respondents' Closing Submissions) (emphasis added).

[1047] R-PHB, § 762.

> would not be economically attractive to a project with a finite life. Finally, ministry approved reserves now also include production based on the assumption that EOR techniques ultimately will be employed over the life of the field. Once again, such methods of production, which may be unattractive economically for a foreign investor in a project with a finite term, would be attractive to the country in the long run.[1048]

708. The Respondents assert that Mr. Figuera's above testimony has gone uncontested.[1049]

709. To Mr. Figuera's above testimony, the Respondents' expert Mr. Patiño adds that the increase in the Ministry's Reserves figures post-Expropriation, was due to "the use of secondary recovery techniques":[1050] From 2009, Ministry Reserves for the Petrozuata field included expected production from EOR, while for the Hamaca field this revision was added from 2010 onwards.[1051]

710. In response to the Claimants' argument that the distinction between the Projects' Reserves and the fields' Reserves is illusory and meaningless as it contradicts the definition of "Proved Reserves", the Respondents assert that "Reserves volumes calculated over some period of time, whether it is for thirty years, covering the term of a project, or one hundred years, covering the life of a field, cannot be recovered "now"; they can only be recovered over time, as the implementation of a development programme at a field (with or without EOR) cannot be achieved all at once."[1052]

711. Finally, the Respondents assert that it is no argument to say that the Claimants too could have implemented EOR techniques and increased production had they remained participants in the Project, inasmuch as such techniques were never seriously considered for the Hamaca Project and were rejected as uneconomical for the Petrozuata Project.[1053] In this respect, the Respondents assert that an EOR project was determined to be cost prohibitive in 2005, when its use was first suggested by the Claimants, in light of the existing tax regime and the fact that the Claimants would have to pay for the natural gas to generate the steam required. The Respondents therefore conclude that if the EOR project was not economic in 2005

[1048] Figuera, WS 1, **RWS-2**, **Annex D**, § 85 (Fourth Figuera ICSID Testimony).

[1049] R-PHB, § 683.

[1050] Tr. (Day 9), p. 2323: 21 (Mr. Murillo).

[1051] Patiño Hearing Presentation, slide 50.

[1052] R-PHB, § 693.

[1053] Figuera, WS I, **RWS-2**, fn. 44

under the fiscal regime existing at the time, it is unlikely to have been economical in the post-Expropriation period given the increase in the tax and royalty rates.[1054]

712. In sum, the Respondents conclude that the Claimants' argument that the increase in the Proved Reserves figures reported by the Ministry and PDVSA for the Petrozuata and Hamaca fields since the nationalization "demolishes Respondents' production estimates"[1055] as frivolous:[1056]

> there is no connection between the Ministry reserves, which include oil that will be produced in the very long term using all available techniques with a recovery factor of 20%, and the production volumes that can be achieved using only cold production during the terms of the Petrozuata and Hamaca Projects. While Claimants' desire to avoid the pre-nationalization evidence demonstrating that the production profiles they hoped to achieve at the outset of the Projects was unrealistic under cold production is understandable, their reliance on Ministry Reserves is nothing more than a smokescreen.[1057]

iii. <u>The Tribunal's determination</u>

713. At the outset, the Tribunal notes that the reliance on Proved Reserves is only to corroborate the Claimants' production profile and call into question the purportedly low production profile proposed by the Respondents. In this respect, the Tribunal has already concluded that of the two, it is adopting the Respondents' production profile.

714. In any event, the Tribunal is not convinced by the Claimants' arguments on this issue. This is because as the Respondents rightly point out, the Claimants are in effect "comparing apples to oranges".

715. The Tribunal notes that regardless of the period of time the Proved Reserves figures covered (i.e. the life of the field as argued by the Respondents or the life of the Project as argued by the Claimants), the real issue is whether the volumes indicated in the Proved Reserves figures could have been achieved through the cold production techniques used by the Projects or whether it required EOR techniques. Assuming that the figures could only have been achieved using EOR techniques, the second stage of the inquiry is whether the Claimants would have implemented such EOR techniques.

[1054] R-PHB, §§ 694-696.

[1055] Tr. (Day 1), 99 (Claimants' Opening Submissions).

[1056] R-PHB, § 762.

[1057] R-PHB, § 698.

716. As regards the first issue highlighted above, it is common ground that the Ministry's Proved Reserves figures included volumes based on the implementation of EOR techniques from 2009 onwards for the Petrozuata Project and from 2010 onwards for the Hamaca Project.[1058] Moreover, the Claimants have not sought to argue that the Proved Reserves figures could have been achieved through the implementation of only cold production techniques.[1059] Thus, arguably the upward trend in the Ministry's Proved Reserves figures is due to the proposed implementation of EOR techniques.

717. This takes the Tribunal to the following question: given that EOR was in fact contemplated, have the Claimants demonstrated that they too would have implemented EOR but-for the Expropriation. In this regard, the Claimants' witness Mr. Brown stated that "ConocoPhillips – a world leader in an EOR method known as Steam Assisted Gravity Drainage (SAGD) – would have promoted the use of EOR had the Projects not been confiscated".[1060] The Tribunal finds that the Claimants' statement has not been substantiated in any manner. The Claimants have failed to present any evidence to show that they would have considered EOR economically viable and implemented it in order to achieve their pre-Expropriation production profiles. In these circumstances, the Claimants' argument comes across as unconvincing and does not provide a sufficient basis for calling into question the Respondents' production figures.

c. *Production issues specific to the Petrozuata Project*

718. Turning to issues specific to the Petrozuata Project, the Respondents raise certain upstream and downstream issues which in their view affect the production forecast for the Petrozuata Project. The Tribunal will first set out the Parties' positions, before setting out its determination with respect to each issue. Giving that the Respondents raised the issues, the Tribunal will set out the Respondents' arguments first.

i. <u>The Respondents' position</u>

719. The Respondents raise the following issues in respect of the production forecast of the Petrozuata Project, each of which shall be elaborated upon in turn:

(1) The alleged pre-Expropriation downward trend in production;

[1058] Brown WS 1, CWS-8, § 70; R-PHB, § 690.

[1059] C-PHB, §§ 646 et. seq.

[1060] C-PHB, § 648.

(2) The alleged issues with the upgrader.

(1) The alleged downward trend in production

720. The Respondents' witness, Mr. Figuera argues that there was a downward trend in production at the Petrozuata Project even prior to the Expropriation in 2007 and this trend would likely have continued thereafter. Mr. Figuera explains that at the time of its authorization, the Petrozuata Project was allotted two designated areas from which EHCO could be extracted. A "Base Area" of 231 km^2 and a "Reserve Area" aggregating 69 km^2. The Project was supposed to be developed from the Base Area and the Reserve Area was to be utilized only if the Project partners agreed and if authorization to do so was received from the Ministry.[1061]

721. Mr. Figuera contends that at the outset, it was believed that the Project would achieve production of an average 120,000 BPD for the entire term of the AA with a total of only 571 **single lateral wells** [which were expected to initially produce 1,500 BPD with relatively long plateau periods[1062]] using **cold production techniques**.[1063] This approach was allegedly premised on the understanding that the oil in the Petrozuata fields was easy to extract and that its geological properties would not hamper such extraction.

722. The Respondents assert however that the reservoir/field was complex and its geological properties resulted in much lower initial productions rates, lower plateau periods and higher decline rates than originally anticipated.[1064] As a consequence the Petrozuata Project re-evaluated its drilling programme and in order to achieve aggregate production of 1.56 billion barrels of EHCO over the term of the Project, envisaged the construction of approx. 754 **multilateral wells** i.e., wells with a number of branches (or "laterals") that could drain different parts of the reservoir simultaneously.

723. Mr. Figuera states that the multilateral well-drilling programme only achieved short term success. Although it helped the Project achieve the production targets necessary to satisfy the lenders, it was not a long-term solution that addressed the production problems plaguing the Petrozuata Project. According to Mr. Figuera, the

---

[1061] Figuera, WS I, **RWS-2**, § 18.

[1062] The plateau period is the period during which the well produces at an optimal, stable level before production decline commences. Figuera, WS 1, **RWS-2,** fn 25.

[1063] Figuera, WS I, **RWS-2**, **Annex D**, § 52 and fns. 171, 202 (Figuera Fourth ICSID Testimony).

[1064] Figuera, WS I, **RWS-2**, §§ 19-20.

fact that this was not a long-term or feasible solution is borne out by the business plans for the Petrozuata Project, which kept envisaging the drilling of an increased number of wells. In particular:

(a) The 2002 business plan contemplated production of approx. 1.59 billion barrels of EHCO at the rate of 120,000 BPD through 2036. The plan envisaged the drilling of 745 wells in total, with no new wells being required until mid 2003.

(b) However, the 2003 business plan, which was issued 6 months later, allegedly envisaged the drilling of additional wells in the first quarter of 2003 itself, in order to meet the projected total production of 1.6 billion barrels of EHCO through 2035, at 120,785 BPD. According to Mr. Figuera the acceleration in the drilling programme indicates that the field was declining at a faster rate than expected. Also in 2003, it appears that the Projects' reservoir personnel stated that access to the Reserve Area would be required in the near term if the production rate of 120,000 BPD had to be achieved for the life of the Project.[1065]

(c) The 2004 business plan projected total EHCO production of 1.58 billion barrels at the rate of 120,000 BPD through to 2033, after which production would decline. However, the plan projected a total of 777 wells, or 29 more than the 2003 business plan.[1066]

(d) The 2005 business plan projected total EHCO production of 1.56 billion barrels over the term of the Project at the rate of 131,100 BPD in normal years. However, it appears that the decline would start much earlier in 2029. The Respondents also emphasize that the plan envisaged the drilling of 56 new wells over a 5-year period to support the above production levels.[1067]

(e) The draft 2006 business plan projected total EHCO production of 1.502 billion barrels at 118,200 BPD in normal years. Decline was estimated to start in 2031. To meet this target, the drilling of allegedly 83 new wells between 2005-

[1065] **CER-3**, **CLEX-63**. *See also* Figuera WS I, **RWS-2**, **App 15** (2003 Petrozuata Business Plan). The 2003 Business Plan envisages the drilling of 748 wells over the life of the Project.

[1066] **C-102**

[1067] **C-104**. However, the Tribunal notes that the total well count reflected in this Business Plan is 727 wells for the life of the Project, which is a drop in the number of wells by 50, from the last Business Plan.

2009 was contemplated i.e. more than the 56 wells envisaged in the 2005 business plan.[1068]

(f) Finally, in the same year, the Respondents assert that in a presentation made by ConocoPhillips, they deflated the above figures. The Claimants predicted a total production of 1.246 billion barrels of EHCO over the life of the Project at 118,200 BPD. Moreover, the production was predicted to start declining as early as 2023. Also, the presentation allegedly envisaged the need to drill 116-119 more wells between 2005-2009.[1069]

724. According to Mr. Figuera, the above numbers clearly indicate that the situation at the Petrozuata Project had changed dramatically year-on-year. Moreover, the precariousness of the production situation just prior to the 2007 Nationalization was obvious. In sum, according to the Respondents, the above figures demonstrate that the Petrozuata production forecast were not set in stone and the 2006 production profile is not reliable.

(2) Alleged issues with the upgrader

725. The Respondents' witness, Mr. Figuera challenges the Claimants' assumption that the upgrader at the Petrozuata Project operated with no problems whatsoever, such that the only limitation to its functioning was the amount of EHCO being extracted from the field. Mr. Figuera asserts that if the Claimants' production figures are adopted, this assumption is possibly accurate because the Claimants assume that production would never exceed 120,000 BPD i.e. more than the maximum capacity of the upgrader. Therefore, at any point in time, the upgrader would always have excess capacity available.[1070]

726. However, according to Mr. Figuera, this assumption does not hold good if actual post-Expropriation data is taken into account, as is the Respondents case. Mr. Figuera states that in the post-Expropriation period, "the upgrader experienced significant periods of downtime [in 2010, 2011 and 2013] resulting from equipment failures and operational errors" such that it placed a constraint on the production of CCO.[1071] In

[1068] **C-126**. The total number of wells envisaged for the life of the Project was 746, i.e. 1 more than the number contemplated in 2002. Moreover, this number is not much lesser than the total number of wells predicted by Mr. Patiño for the Petrozuata Project as part of his decline rate analysis.

[1069] Figuera, WS I, **RWS-2, App. 151**.

[1070] Figuera, WS I, **RWS-2**, § 30.

[1071] Figuera, WS I, **RWS-2**, § 31, **Annex D**, §§ 87-95 (Mr. Figuera describes issues that arose with the upgrader prior to December 31, 2013. Also, in 2014 and 2015, additional problems have allegedly arisen at the upgrader.

particular, the upgrader allegedly suffered from the following problems: (a) a number of boiler failures, which reduced or eliminated the production of steam required in the process; (b) a number of failures at the air compressors, which reduced or eliminated compressed air required for, *inter alia*, the pneumatic actuators for the automatic valves; (c) a failure at the atmospheric tower in 2010 due to the presence of excessive water, resulting in damage to a number of the trays; and (d) a failure at the DCU.[1072]

727. Mr. Figuera explains each of the above in greater detail as follows:[1073]

i. He states that at Petrozuata, steam is required for the proper functioning of critical processes. Such steam is produced at the Steam Unit which comprises three boilers. As per the original operating design, it was intended that two boilers would function while the third would be kept on standby for emergencies. However, it appears that early in the Project – which Mr. Figuera specifies was prior to the migration – it was decided that all three boilers would operate simultaneously at 50% of their capacities, such that if one failed, the other two would already be operating. It appears that in 2005 one of the boilers failed and has only operated intermittently since then, leaving the upgrader with only two functioning boilers.

ii. Further, these boilers require fuel gas to operate, which provides the heat necessary to convert water to steam. The fuel gas is generated in the upgrading process but needs to be purified of its high concentration of corrosive Hydrogen Sulphide gas. Such purification is achieved in the Amine unit. However, in the event the Amine unit underperforms, the Hydrogen Sulphide gas and its equally corrosive byproducts (i.e. sulphuric acid) remain in the fuel gas and causes corrosion of the boilers' tubes and chambers. According to Mr. Figuera, while corrosion takes place even during the normal operations of the boilers, it is even more acute when the boilers are shut down.

iii. In addition to the above acid corrosion, the boilers also face issues due to the presence of hydrocarbons in the "boiler feed water that flows through the

During 2015, the upgrader experienced significant unscheduled shutdowns that the Project attributes in part to the deferral of the turnaround that had been scheduled for mid-2015.)

[1072] Figuera, WS I, **RWS-2**, **Annex D**, § 88. Mr. Figuera also asserts that there was a planned shutdown for a 67-day turnaround in 2011.

[1073] Figuera, WS I, **RWS-2**, **Annex D,** §§ 89-96.

tubes". Mr. Figuera asserts that while hydrocarbons can enter the steam system, there are usually valves that should prevent such entry. However, the valves installed at the Petrozuata upgrader were simple "check valves" that on occasion did not respond fast enough to prevent the entry of hydrocarbons into the steam system. Mr. Figuera states that such hydrocarbon laden water, when heated in the boilers generates coke which builds up into the walls of the tubes and can result in them fracturing. It appears that starting in December 2009 and into 2011, there were a number of tube failures at the boilers resulting from high Hydrogen Sulphide concentration in the fuel gas and presence of hydrocarbons in the steam that resulted in partial and total shutdowns of the upgrader, thereby affecting upgrader performance. As a result of these issues, PDVSA was allegedly contemplating replacing various parts of the upgrader with better systems/technology.

iv. In 2010 and 2011, there were allegedly a number of failures at the air compression units that caused unplanned shutdowns. Such shutdowns occurred as a result excessive calcium carborate deposits in the compressor's tubes which then had a cascading effect on various parts of the compression units.

v. In 2010 there was an emergency shutdown at the feed furnace due to the loss of flow caused because of an obstruction in the filters. After the column was restarted, certain problems still remained. In the process of fixing these issues, those operating the upgrader caused damage to other parts of the atmospheric column as a result of which the same was out of service for 28 days until repairs were completed.

vi. Lastly, in 2013 there was an incident at the coker unit due to operator error that caused a shutdown of the upgrader for 45 days.

728. On the basis of the above, Mr. Figuera asserts that even if the field produced excess EHCO, due to the problems at the upgrader, not all of it was converted to CCO which could be commercialized. Accordingly, he asserts that reductions in the production figures on account of the problems at the upgrader need to be factored into

Petrozuata's production profile and this has been done by Mr. Patiño in his analysis.[1074]

ii. <u>The Claimants' position</u>

729. The Claimants' responses to each of the issues raised above are set out below:

(1) The alleged downward trend in production

730. The Claimants submit that the Respondents arguments as regards the alleged downward trend in Petrozuata's pre-Expropriation production profile are misleading.

731. First and foremost, the Claimants submit that Mr. Figuera, who now impugns these production figures – endorsed them contemporaneously. For instance, Mr. Figuera allegedly signed the 2005 Annual Report in his capacity as the President of Petrozuata Project's operating company i.e. Petrozuata C.A. and therein endorsed that the Project would produce over 1.6 billion barrels of EHCO over its operating life.[1075] Further, in a presentation given in November 2006, Mr. Figuera allegedly projected the recovery of 1.56 billion barrels of EHCO over the life of the Project and the drilling of around 727 wells.[1076] According to the Claimants, this figure significantly exceeds the total recovery assumed by Mr. Abdala.

732. As regards the alleged increase in well count over the years, the Claimants submit that the Respondents comparison is misleading in as much as it only reflects the number of wells that were proposed to be drilled between 2005 and 2009 and fails to give the total well count predicted in each business plan. Comparing the total well count in each of the business plans, the Claimants assert that if the total well count between the 2002 business plan and the 2006 business plan were to be compared, the total number of wells increased only by 1 i.e. from 745 to 746. As regards the Respondents' reference to their October 2006 presentation, they assert that the change in figures has occurred due to the deferral in access to the Reserve Area from 2007 to 2009.[1077]

(2) Alleged issues with the upgrader

[1074] He also caveats that EHCO itself could not have been sold because the AAs in their original forms were not allowed to sell blended products but only CCO. Hence, in the but for world, if actual figures are used, then the actual CCO volumes that are sold must be used. Figuera, WS I, **RWS-2**, § 31; Figuera, WS I, **RWS-2, Annex D**, § 96.

[1075] C-PHB, §§ 720-721.

[1076] C-PHB, § 721; **C-217**.

[1077] C-PHB, § 722(a)-(c).

733. The Claimants submit that the Respondents' arguments regarding alleged problems with the upgrader have been conjured up for the sole purpose of reducing the Claimants' damages and are entirely meritless.

734. First, the Claimants submit that the Respondents' allegations regarding the upgrader rest solely on the testimony of Mr. Figuera who had no direct involvement with the Petrozuata Project since November 2006. Accordingly, the Claimants submit that Mr. Figuera's testimony cannot support the Respondents' allegations regarding problems at the upgrader.

735. Second, the Claimants assert that prior to the Expropriation, the Petrozuata upgrader enjoyed an exemplary operating record and had achieved an average on-stream factor ("OSF") of roughly 97%.[1078] The Claimants point out that with one notable exception, all the problems highlighted by Mr. Figuera have occurred in 2009 or thereafter, i.e. in the post-Expropriation period when the upgrader was operated entirely by PDVSA. In the circumstances, the Claimants assert that any deficiencies and problems at the upgrader reflect PDVSA's own negligent operation of the upgrader and cannot be attributed to the Claimants in the but-for analysis.

736. On this basis, the Claimants assert that, "the simple truth is that Respondents took possession of an upgrader at Petrozuata that had attained "world class" status. To the extent that any claims of diminished performance since the expropriation can be credited, it is clear that the Respondents have only themselves to blame".[1079]

iii. <u>The Tribunal's determination</u>

737. In respect of the first issue raised by the Respondents i.e. the alleged downward trend in Petrozuata' pre-Expropriation production figures, the Tribunal notes that the Respondents' objective behind making this argument was to call into question the Claimants' pre-Expropriation production forecasts. In light of the fact that the Tribunal has decided to adopt the Respondents' production forecasts, the Tribunal need not reach any final decision on this argument.

[1078] C-PHB, §§ 738-739. The Claimants explain that on-stream factor or OSF is a metric that describes the operational efficiency of an upgrader or refinery. Simply put, it reflects the ratio of actual CCO production to the upgrader's capacity. For example, if an upgrader which has a capacity to convert 100,000 BPD actually produces an average of 95,000 BPD of CCO over a given period of time, its OSF will be 95%. Earnest Report, § 50; Tr. (Day 8) 2217:8-22 (Mr. Earnest). The Respondents' witness also agrees with this definition. Figuera, WS I, **RWS-2**, fn 83 (OSF in this context is expressed as a percentage equal to the total CCO produced during a period of time divided by the design capacity of the upgrader).

[1079] C-PHB, § 748.

738. As regards the second issue i.e. the alleged problems at the Petrozuata upgrader, even in this case the Respondents appear to be raising this issue with the objective of demonstrating that the assumptions underlying the Claimants' production forecast are incorrect. In particular, the Respondents seek to assert that not only the production capacity of the field, but also the production capacity of the Petrozuata upgrader acted as a constraint on production.[1080] In their view, the Claimants ignore both these factors. First, as with their previous argument, the Tribunal need not reach a final decision on this issue in light of the fact that it has decided to adopt the Respondents' production forecasts. That said, the Tribunal finds the Respondents allegations regarding the Petrozuata upgrader entirely without merit. The Tribunal notes that the Respondents rely on the testimony of Mr. Figuera in support of their allegations regarding the Petrozuata upgrader. Moreover, they state that "the Claimants have previously been provided with documentation relating to a number of the more serious problems at the Petrozuata upgrader in the post-nationalization period".[1081]

739. However, having examined the documents on record, the Tribunal finds that the Respondents have failed to produce any such "documentation" relating to the "serious problems at the Petrozuata upgrader".[1082] The only basis for their allegations is Mr. Figuera's unsubstantiated testimony. In the absence of such evidence, the Tribunal finds the Respondents' allegation regarding the upgrader's role in any perceived reduction in production volumes at the Petrozuata Project are untenable.

d. *Production issues specific to the Hamaca Project*

740. As with the Petrozuata Project, the Respondents raise certain downstream issues which in their view affect the production forecast for the Hamaca Project. Even in this instance, the Tribunal finds it apposite to set out the Respondents' arguments first, given that the Respondents have raised these issues.

i. <u>The Respondents' position</u>

741. With respect to the Hamaca Project, the Respondents raise the following issues, each of which shall be elaborated upon in turn:

[1080] SoD, § 416

[1081] *See* SoD, fn 945.

[1082] When stating that they have provided the Claimants with necessary documentation, the Respondents only refer to §§ 87-96 of Mr. Figuera's Fourth ICSID Testimony (Figuera, WS I, **RWS-2**, **Annex D**, §§ 87-96) However, in these paragraphs, Mr. Figuera only describes the alleged myriad problems at the Petrozuata upgrader without referring to a single document in support of the same.

(1) The Hamaca upgrader's On-Stream Factor ("OSF");

(2) Issues faced by the Coker unit; and

(3) Other operational issues

(1) The Hamaca upgrader's OSF

742. As explained previously, the OSF or on-stream factor is a measure of the total CCO produced during a period of time divided by the design capacity of the upgrader.[1083] In other words it is reflective of the performance capacity or utilization of the upgrader. Based on actual data, the Respondents propose a long-term OSF of 72.85% for the Hamaca upgrader. In contrast, the Claimants propose an OSF factor of 91%. It is the Respondents' case that the 91% OSF underlying the Claimants' production forecasts for the Hamaca Project is absolutely unachievable given the condition of the Hamaca upgrader and thus, entirely without basis.

743. The Respondents' witness, Mr. Figuera, states that between 1999 and 2006 the Hamaca Project participants commissioned four reliability, availability and maintainability ("RAM") studies to be undertaken by independent analysts, in order to assess the upgrader's performance.[1084] Each RAM study was undertaken at different stages of the construction process of the upgrader and therefore was able assess additional technical information about the upgrader's performance. According to Mr. Figuera, "[t]he history of the RAM reports […] shows that as the upgrader proceeded from conceptual design to operation, its reliability, as measured by its predicted OSF, deteriorated significantly".[1085]

744. The findings of the four RAM studies are summarized below:[1086]

RAM Study (Year)	Upgrader Status	Components Addressed	Mean OSF (%)
RAM I (1999)	FEED Package	Unknown	93.00
RAM II (2002)	Detailed Engineering	~ 600	86.40
RAM III (2003)	60% Constructed	619	85.37
RAM IV (2006)			84.38

[1083] *Supra*, fn 1078.

[1084] R-PHB, § 706.

[1085] Figuera, WS 1, **RWS-2**, §§ 34-35.

[1086] R-PHB, § 706; Figuera, WS 1, **RWS-2**, § 35.

Post-Metallurgy Improvements	1+ Year After Upgrader Start-Up	1,354	86.32
Post-Metallurgy Improvements w/Potential Upstream Failures			84.26

745. The Respondents submit the above RAM studies demonstrate that:

> (i) the projected OSF steadily declined as more information became available; (ii) the probability analyses for RAMs II, III and IV all indicate no chance of achieving either the 93% long-term OSF target established at the beginning of the Project or the 91% plus long-term OSF that forms the basis of Claimants' projections; and (iii) the OSFs for the most representative scenario established in RAM IV were 84.38% before metallurgical improvements and 86.32% following those improvements, reduced to 82.35% and 84.26% respectively, when potential upstream failures are taken into account.[1087]

746. To this, Mr. Figuera adds that with the exception of 2005 when the upgrader was brand new, the OSF has never even reached the level predicted in the RAM studies, much less a value of 91%. The actual performance of the upgrader and the OSF achieved year-on-year is summarized below:

Year	OSF (Based on CCO Production)	OSF (Based on CCO Sales)
2005	87.63%	86.25%
2006	74.96%	74.90%
2007	82.79%	81.68%
2008	78.77%	79.76%
2009	60.52%	60.84%
2010	75.45%	76.30%
2011	71.37%	72.38%
2012	40.74%	38.36%
2013	72.61%	71.90%
2014	81.14%	80.78%
2015	77.72%	78.24%
Average	73.06%	72.85%

747. Accordingly, it is the Respondents' case that the upgrader could have never achieved the 91% OSF adopted by the Claimants.

748. In response to the Claimants' various allegations, the Respondents submit that:

a. The Claimants' allegation that the RAM reports "predict an average long-term OSF of between 84% and 93%",[1088] is misleading. They submit that these numbers are not indicative of a range of OSFs that can be achieved as sought

[1087] R-PHB, § 706.

[1088] Reply, § 405.

to be implied by the Claimants. Rather, they show a progressive downward trend in the OSF as more information about the upgrader became available. The Respondents assert that with the exception of RAM I, none of the other RAM studies predict a maximum OSF which exceeds 88.38% and this number is still lesser than the OSF value on which the Claimants seek to rely.[1089]

b. The Claimants assertion that the Board of Directors of the Hamaca Project endorsed a long-term OSF of 91% at a Board Meeting of 18 May 2006 is entirely misleading and incorrect. In this regard, the Respondents first assert that the Claimants have relied on the presentation made at a different Board Meeting i.e. the Board Meeting of 17 November 2005, and that this presentation was never discussed at the 18 May Board Meeting. Second, they assert that the Claimants have produced an incomplete translation of the minutes alleging that the Spanish original is illegible, when in fact it is not.[1090] The Respondents submit that the two phrases in the original Spanish version of the Board Minutes which the Claimants purport are illegible in fact read as follows: "*el Plan General de Negocios establece un factor de utilización de 91,4% […] pero se indicó que sería un reto para Ameriven durante los próximos años satisfacer esa expectativa. […]El Factor de Utilización del Mejorador para el período de los próximos 10 años es 91,4%, en relación con este asunto Ameriven mencionó que tenían que resolver cómo alcanzarían este número, sino el Plan de Negocios necesitaría una revisión*". When translated to English, according to the Respondents they state that achieving a 91% OSF "would be a challenge for Ameriven during the next few years [and that the Project] needed to figure out how they would reach this number, otherwise the Business Plan would need to be revised."[1091] In sum, the Respondents assert that the Board minutes directly contradict the Claimants' case.

c. The Claimants' contention that the post-Expropriation performance of the upgrader should be rejected in light of the fact that during this period the upgrader was under the direction of a PDVSA controlled mixed enterprise, ignores the distinction between "hopes and reality".[1092] In that, while the

[1089] R-PHB, § 709; Figuera, WS 1, **RWS-2**, **App. 20** (RAM II) (max OSF of 88.38%); Figuera, WS 1, **RWS-2**, **App. 21** (RAM III) (max OSF of 87.29%); Figuera, WS 1, **RWS-2**, App. 9 (RAM IV) (max OSF of 86.77%).

[1090] **CER-3**, **CLEX-58**.

[1091] Figuera, WS 1, **RWS-2, App. 22**.

[1092] R-PHB, § 723.

Claimants may have "hoped" that the upgrader's performance could have been improved, this has no bearing on the "reality" that the upgrader's performance would have been no different even if the Claimants had remained participants in the Hamaca Project. The performance of the upgrader that was actually achieved and on which the Respondents rely, in their view represents the performance that would in all likelihood have been achieved, regardless of the presence of the Claimants.[1093]

d. The Claimants' contention that the OSF should be higher than 72.85% in light of the billions of dollars spent by the Respondents on upgrader turnarounds and improvements is confusing because it once again conflates hopes and reality. The reality is that the OSF has averaged at 72.85% for eleven years of operation through 2015. The reality also is that PDVSA and Chevron have spent "hundreds of millions of dollars in an effort to improve upgrader performance".[1094] The reality equally is however that the expenditures have not yielded sustained results. The attempt by the Claimants' witness Mr. Earnest, to predict an increased OSF based on the various maintenance and improvement projects that were envisaged for the Hamaca Project ignores this reality.[1095]

749. In sum, the Respondents conclude that, "the figures do not lie, and the 72.85% OSF [posited by the Respondents] is supported by the entire record in these proceedings. While the Claimants would like to believe that a project in which ConocoPhillips, along with Chevron and PDVSA, was a partner would have performed better, there is no basis whatsoever for the assertion that the "but for" world would have been any brighter for the Hamaca upgrader."[1096]

(2) Issues faced at the Coker unit

750. In addition to the aforesaid problems with the Hamaca upgrader's OSF, Mr. Figuera asserts that the upgrader also suffers from serious vibration problem at its coking structure. It appears that in February 2006, "[a]ll parties agree[d] the problem is very complex and not easy to solve. […] Of particular concern has been the fact that the vibrations cause[d] cracks in the coke drum overhead vapour lines that carry the

[1093] R-PHB. § 723.

[1094] R-PHB, § 726.

[1095] R-PHB, § 727; Earnest Report **CER 7**, § 64.

[1096] R-PHB, § 728.

entire content of the high-temperature, highly combustible effluent of the delayed coking reaction process."[1097] The Respondents submit that while short term and low level usage may not create a high risk, regular usage could result in "a leak or failure in these [vapour] lines [and would] have catastrophic consequences for the continued viability of the upgrader"[1098] as it would require the total shutdown of the upgrader for an extended period of time.[1099]

751. According to the Respondents, the foregoing problems led to an enormous number of loss of opportunity events over the life of the Project.[1100] For example between 2005 and 2013 alone, the average number of loss of opportunity events was 40.8. The overall loss of production was 5,258,000 barrels between 2005-2006 and 7,063,000 barrels between 2008-2013.

752. Further, the Respondents submit that they made every effort to find a solution to the above vibration problem. In particular, Mr. Figuera asserts that:

> The severity and uniqueness of the vibration problem resulted in the establishment by the Project of a Vibration Mitigation Management Team prior to the nationalization. This team was comprised of experts from each of the Project participants, and headed up by personnel from Chevron Energy Technology Company ("CETC"). Claimants have argued in the past that this team came up with a solution. […] Despite the efforts of CETC to develop a solution, the best that its most recent proposed mitigation project is expected to achieve is a reduction of the vibrations from eight times the target level to three times the target level. In other words, even after all of the time and effort that has gone into the study and analysis of the vibration problem, no real solution has been developed for this unique problem, and the Project remains at extreme risk.[1101]

753. Thus, the Respondents submit that the problems with the coker unit were of sufficient magnitude to affect the upgrader's performance for an extended period and create the risk of catastrophic failure. In their view, the same should be accounted for in the assessment of the Claimants damages.

754. Accordingly, to account for "a total shutdown of the upgrader, which would effectively end the [Hamaca] Project," the Respondents experts, Mr. Brailovsky and Mr. Flores,

[1097] R-PHB, § 730; Figuera, WS 2, **RWS-4**, §§ 18-20. *See also* **RWS−2**, **Annex A**, § 52 (First Figuera ICSID Testimony); Figuera, WS 1, **RWS−2**, **Annex B,** §§ 90-96 (Second Figuera ICSID Testimony); Figuera, WS 1, **RWS−2**, **Annex D**, §§ 34-44 (Fourth Figuera ICSID Testimony); Figuera, WS 1, **RWS−2**, **Annex E**, §§ 40-44 (Fifth Figuera ICSID Testimony); Figuera, WS 1, **RWS−2**, §§ 44-46.

[1098] R-PHB, § 730; Figuera, WS 2, **RWS-4**, §§ 18-20; Figuera, WS 1, **RWS-2**, **Annex D**, § 38.

[1099] Figuera, WS 1, **RWS-2**, **Annex D**, § 34.

[1100] The Tribunal understands that loss of opportunity events are only those events that are not anticipated and therefore not otherwise already included in the expected levels of CCO production and sales.

[1101] Figuera, WS 1, **RWS-2**, **Annex D**, §§ 36-44; Figuera, WS 1, **RWS-2**, **App. 72**, pp. 3-4 (CETC Report).

"assume in each year a 90% probability that the Hamaca upgrader will keep operating and a 10% probability that the Hamaca upgrader will stop operating and that, consequently, the Hamaca Project will cease operations".[1102] They acknowledge however that this issue has relatively little impact on their compensation calculations in light of the Hamaca Project's costs and oil price projections.

(3) Other operational issues

755. In addition to the above issues the Respondents assert that the following issues also had an impact on production:

> **Corrosion:** Claimants say that corrosion "was a recognized issue prior to the expropriation and was being addressed" and that it "is a common problem at refineries and has straightforward remedies." The answer to Claimants' first point is that recognition of a problem and its favorable resolution are two very different things. […] [W]ith the exception of the work of a Chevron (CVX) team to "[update] corrosion assessment of plant" and initiate the "[a]pplication of specialized techniques for early detection of corrosion mechanisms," the only thing that had been done was to place a purchase order for heat exchangers with upgraded metallurgy, equipment that had been identified much earlier as requiring upgrades. What is clear is that, while the Project recognized the problem and had identified certain corrective measures, neither the scope nor the estimated expenditures bore any relationship to reality. Claimants' second point – that refineries everywhere confront corrosion problems and such problems can be remedied – is meaningless in the context of this case, where PetroPiar implemented the metallurgy upgrades that were thought to be the remedy prior to the nationalization, where the Chevron team responsible for corrosion assessment has continued to find corrosion [in places] where it was not expected to occur and new corrosive mechanisms, such as chlorine corrosion, in still additional circuits, and where the problem has remained a complex, moving target.
>
> **Low EHCO Quality:** Respondents have also pointed out that contrary to the original assessment, it has been expected from the outset that the API gravity of the EHCO would drop from an average of about 8.6º API to about 7º API. It was well understood that such a drop would have an impact on the yield rate at the upgrader and, accordingly, the ultimate recovery of CCO. The […] Claimants denied that the lower API gravity was an issue, claiming that even though the API in the southern portion of the […] field was lower than originally expected, most of the Hamaca reserves are in the northern part of the field, where the API is higher than expected, such that the northern and southern crudes can be blended before upgrading, with the result that the API gravity would not be impacted. That argument was incorrect because, while it is true that the southern part of the field has lower API gravity EHCO, the northern part does not contain most of the reserves and the API gravity is not higher than expected. Claimants did not repeat that baseless argument in this case, replacing it with the assertion that "there is no evidence" that the lower API "has affected syncrude production." This new argument is misleading because (i) EHCO production has been lower than anticipated due to the very poor performance of the upgrader (and despite the fact that non-upgraded EHCO has been sold), meaning that the overall average API gravity has not dropped as sharply as might have been the case had the upgrader been performing at

[1102] Brailovsky & Flores ER I, **RER-3**, § 224; Brailovsky & Flores ER I, **RER-3**, **App. BF−6** (Compensation Calculations – Hamaca, Table 1).

the OSF Claimants project, (ii) the API gravity in recent times has frequently fallen below (sometimes far below) 8.0º API, which is lower than the 8.6º API specification for the upgrader and (iii) the problem will get worse as exploitation continues and the reserves in the northern part of the field are depleted and replaced with larger volumes from the south. In short, Claimants have no real answer to the API gravity problem at the Huyapari field and its impact on production at the Hamaca upgrader.[1103]

Tank 12: Finally, with respect to Tank 12, a major intermediate tank at Hamaca, Claimants state that the tank "apparently collapsed in 2011 due to a fire on PDVSA's watch." That is an oversimplification. From the outset, the operating procedures for start-up of the upgrader allowed light hydrocarbons to be routed to Tank 12, even though its usual contents were the far less volatile heavy fractions from the crude unit. Despite the fact that this upset condition should have been anticipated, the tank venting system as designed was inadequate to accommodate an overpressure situation when light hydrocarbons were routed to the tank. A series of pre-nationalization overpressure incidents resulted in deformations to the tank's roof and cracks in the walls, which were contributors to the seriousness of the 2011 event. Because there was neither a redundant tank nor a sufficiently sized bypass, the tank could not be taken out of service for repairs without shutting down upgrader operations, and rather than taking it out of service for a lengthy period and incurring the accompanying loss of production, it was decided to monitor the situation. In 2011, another overpressure event resulted in a fire and the collapse of the tank's roof, which in turn caused significant loss of production in 2012. Claimants cannot rationally contend that this incident – not unlike incidents at ConocoPhillips' own refineries and projects – could have been avoided simply because a ConocoPhillips subsidiary, in addition to PDVSA and Chevron, would have been a participant in the project in a "but for" world.[1104]

756. In sum, the Respondents conclude that, "[the] Claimants want to leave the false impression that the levels of production that have actually been achieved, when compared to their claim of what the upgrader could achieve at a 91-92% OSF, are due to the lack of ability or experience of the current operator. However, the fact of the matter is that the upgrader was poorly designed on ConocoPhillips' watch and has suffered substantial problems throughout its existence. A 91-92% long-term OSF has never been achieved. During its nine-year history, the upgrader's actual OSF was only 71.37% and, given the serious ongoing problems at the upgrader, a long-term average OSF of 71.37% represents an appropriate projection."[1105]

ii. <u>The Claimants' position</u>

[1103] Figuera, WS 1, **RWS-2, App. 47** (internal email from members of Hamaca Ops Committee); Figuera, WS 1, **RWS-2, App. 27 and 28** (Technical Note circulated by Process Engineer Production Coordination re: lower quality API); *See also* fiscalization reports which set out the API gravity of the DCO before it is sent to the Upgrader (Figuera, WS 1, **RWS-2, App. 168, 179**).

[1104] R-PHB, § 739.

[1105] Figuera, WS I, **RWS-2, Annex D**, § 50.

757. The Claimants submit that the Respondents' arguments regarding the downstream issues that allegedly affect the future performance of the Hamaca upgrader are contrary to the evidence on record.

(1) OSF of the Hamaca upgrader

758. At the outset, the Claimants state that their expert Mr. Abdala, uses an average production figure of 175,000 BPD of EHCO through the term of the Project and in this process arrives at an average OSF of 91%. According to the Claimants, this OSF is reasonable, meets the expectation of all Project partners prior to the Expropriation, and is suitable for use in the but-for analysis.[1106]

759. The Claimants submit that the RAM studies commissioned by the Project partners allegedly projected OSF figures between 84% and 93%.[1107] Upon receiving the last study i.e. RAM IV, the Project partners evaluated the same and endorsed a long term OSF of 91% at a Board Meeting of the Hamaca JVC on 18 May 2006.[1108] Pertinently, the Claimants rely upon a presentation made to the Board of Directors on 17 November 2005.[1109] The Claimants submit that the aforesaid conclusion made by the Hamaca Board of Directors is supported by the actual performance of the Hamaca Project in the pre-Expropriation period. In particular, the Claimants point to the fact that in 2005, the first year in which the upgrader went online, it achieved an OSF of approximately 89% which was in excess of the RAM IV prediction. Similarly, in the first five months of 2006, the OSF averaged over 91%.

760. The Claimants assert that based on the above figures, the Hamaca Business Plans over successive years from 2006 to 2015 envisaged an OSF that would remain at rates above 90%.[1110] Moreover, the Project partners intended to make significant capital investments to enhance and sustain the upgrader's OSF. In the view of the Claimants' expert Mr. Earnest, such investment could be expected to yield a long term OSF of 91.76%, which is consistent with the figure adopted in the Ameriven Model and with the Claimants' damages model.[1111]

[1106] C-PHB, §§ 759-760.

[1107] Figuera, WS 1, **RWS-2**, **App.19** (RAM I), and **App. 9 (**RAM IV).

[1108] **C-278**.

[1109] C-PHB, fn. 1343 citing Figuera, WS 1, **RWS-2**, **App. 22**. The Claimants also acknowledge that the Board of Directors viewed attaining a 91% OSF as a challenge.

[1110] **C-127**, **C-283**.

[1111] **C-149**.

761. As regards the Respondents' arguments that the OSF of the Hamaca upgrader should be fixed at 72.85%, the Claimants submit that these arguments should be rejected as "a self-serving attempt to impose an artificial cap on the long-term OSF", for the following reasons:[1112]

762. First, these allegations are based on Mr. Figuera's testimony, who had no involvement with the Project from December 2007. Accordingly his statements are uninformed and cannot provide a basis for making any findings.

763. Second, the Respondents' position is based on the performance of the upgrader under the direction of a new operating company which is entirely controlled by PDVSA. According to the Claimants, there is strong evidence to suggest that PDVSA's post-Expropriation operation of the Projects suffered from severe deficiencies and mismanagement, none of which can be attributed to the Claimants when applying the but-for test.[1113]

764. Third, the Respondents acknowledge that the mixed enterprise that has taken over the Hamaca field is permitted to sell and has been selling large quantities of non-upgraded products since 2009. Assuming that the upgrader was capable of processing these additional volumes, bypassing the upgrader causes an artificial reduction in the OSF.[1114]

765. Fourth, the Respondents' OSF of 72.85% is incredible on its face and it implies that the upgrader is not functioning nearly 30% of the time. However, if this were the case, there would be no need for the Respondents to allegedly spend billions of dollars on maintenance, improvements and turnarounds of the upgrader, the very purpose of which is to achieve enhanced OSF. The OSF suggested by the Respondents is inconsistent with the amounts spent by them to maintain and more pertinently, to improve the upgrader's performance.[1115]

766. In light of the above, the Claimants conclude that "the evidence solidly supports the collective expectation of the Hamaca Project partners including Respondents here, that a long-term OSF of 91% would be attained. Respondents desultory OSF figure of 72.85% based on their own alleged post-Expropriation performance, is irrelevant,

[1112] C-PHB, §§ 768 et. seq.

[1113] Earnest Report, § 59;

[1114] ICSID Consolidated Earnest Report, § 59.

[1115] R-PHB, §§ 772.

unreliable and unrealistic. Even if true, it would at best reflect post-Expropriation deficiencies on the Respondents' part, which could not be imputed to Claimants in the but-for application. Both Mr. Figuera's long-term OSF figure and Mr. Patino's reliance on this figure should be rejected by the Tribunal".[1116]

(2) The Coker unit

767. The Claimants submit that the Respondents' allegation regarding the coker unit are "no more than a transparent attempt to avoid paying what they rightly owe [the] Claimants."[1117]

768. First and foremost, the Claimants point to Mr. Figuera's testimony where he acknowledges that the vibrations at the coker unit have not impacted CCO production, and thus that there can be no impact on the valuation of the Project.[1118] Moreover, the Claimants assert that prior to the Expropriation, the Hamaca Board of Directors had identified and agreed upon a list of appropriate corrective measures to remedy or mitigate the problems of the coker vibrations.

769. Therefore, for the Respondents to now argue that the coker vibration poses a "risk of catastrophic failure that would permanently disable the upgrader complex as a whole" is "facially incredible".[1119] In any event the Claimants submit that PetroPiar's conduct belies the Respondents' above claim. Because, nearly 10 years after the expropriation, PetroPiar has not taken any steps to correct the problem. Rather it was only in 2012 that the Project company commissioned a third party i.e. Chevron Energy Technology Company (CETC) to undertake an assessment of the vibration issue and propose solutions. More to the point, it appears that despite CETC's proposal to carry out certain changes that will reduce such risk of vibrations, it appears that none of these solutions have been implemented on the coker unit till date.[1120]

770. In the circumstances, the Claimants submit that the Respondents' allegations regarding the operational problems at the coker unit and in particular, the suggestions of its catastrophic failure are entirely baseless. As a consequence, the Claimants

[1116] C-PHB, § 777.

[1117] C-PHB, § 788.

[1118] Figuera, WS I, **RWS-2**, **Annex D**, fn 93; C-PHB, § 779.

[1119] C-PHB, §§ 781, 783.

[1120] C-PHB, §§ 781-787.

argue that the 10% annual compounded risk of Project destruction factored into the Respondents' production forecast for the Hamaca Project is an artifice.

(3) Other operational issues

771. In respect of the operation issues raised by the Respondents pertaining to corrosion, lower EHCO quality and the collapse at Tank 12, the Claimants' expert, Mr. Earnest submits that these issues are either minor or are attributable to the Respondents' own poor performance and therefore cannot be included in the production analysis. The Claimants' and Mr. Earnest's views on these operational issues are summarized as follows:

(a) **Naphthenic acid corrosion**: The record shows that corrosion was an expected phenomenon issue prior to the expropriation and was being resolved. Indeed, corrosion is a common issue at refineries and has straightforward, well-understood remedies. Notably, one of Mr. Figuera's own exhibits contains a chapter entitled "corrosion: [a] natural but controllable process"—which he conveniently omitted from the exhibited version.

(b) **EHCO quality**: There is no evidence that the alleged "quality" issues Mr. Figuera raises—*i.e.*, lower API gravity of the EHCO and higher carbon and Sulphur content—have had any effect on syncrude production. As Mr. Earnest explains, Respondents have vastly overstated any potential impact on syncrude production in any event.[1121]

(c) **"Tank 12":** This storage tank apparently collapsed in 2011 due to a fire on PDVSA's watch, caused by operator error. That is PDVSA's responsibility, and in any event would have been covered by Petropiar's insurance policy (which covers business interruption losses).[1122]

772. In summary, the Claimants submit that none of the above issues should affect the Hamaca Project's production profile in the but-for analysis.

iii. <u>The Tribunal's determination</u>

773. The focus of the Parties' submissions for the Hamaca Project is the Hamaca upgrader. In particular, Parties are in disagreement as to (a) the Hamaca Project's OSF and (b) the possibility of the upgrader catastrophically failing due to attendant problems with the upgrader's coker unit. Accordingly, the Tribunal shall first address

[1121] Earnest Report, §§ 129-140. There appear to be multiple issues with the EHCO quality, chief among them is the alleged reduced API of the EHCO produced at the fields. According to the Claimants' expert, the problem is overstated. Oil quality varies over time as a matter of principle/fact and refineries and oil manufacturers are used to this fact. Also, the technical report on which Respondents rely has provided a solution. Namely, it states that "the combination of maximizing the diluent API gravity through operational changes and the recovery of purge naphtha in the new 10-C-005 Diluent Scrubber will reduce the volumetric impact of lower EHCO gravity to about 1.5 kb/d." *See* Earnest App. MUSE 15.

[1122] Earnest Report, §§ 85-88, 89-101, 129-140

these issues raised by the Parties, before turning to the other operational issues, to the extent that they are relevant.

a. The Hamaca upgrader's OSF

774. With respect to the OSF, in the Claimants' case the Hamaca upgrader was of a "best in the world quality" and would have achieved an OSF of around 91%. They submit that a 91% OSF was the shared expectation of the Project participants before the Expropriation. In support of their projection, the Claimants primarily rely on the RAM studies and the Hamaca Board of Director's endorsement of a 91% OSF in the Board Meeting of the Hamaca Board of Directors. The Respondents' dispute the Claimants interpretation of both of the above documents and contend that the OSF could never have reached 91%.

775. Having examined the documents on record, the Tribunal is of the view that none of the documents relied on by the Claimants support their thesis of a 91% OSF.

776. In particular, the Tribunal notes that it was the original goal of the Hamaca Project to achieve an OSF of 93%.[1123] The objective of RAM I was to determine, based only on the current design of the upgrader, whether this goal could be achieved. RAM I verified that based on the current design of the upgrader, an OSF of 93% was achievable.[1124] RAM II was issued 2 years later and re-examined the information and assumptions forming the basis of RAM I. RAM II verified that the mean achievable OSF was 86.4%. Further RAM II also stipulated that "According to Figure 5.2, the project can be 95% confident of achieving at least an 85.6% OSF in a twenty year duration [but that] [t]he confidence curves indicate that there is no chance (i.e. zero confidence) of achieving the targeted 93% availability level"[1125] RAM III examined the upgrader when it was 60% complete and provided the OSF that could be achieved in seven different scenarios. It is worth noting that in none of these scenarios did the OSF ever reach close to 90%.[1126] Moreover, RAM III also predicted that the OSF could range between 84% and 86.75% with a mean value of 85.38%.[1127] RAM IV,

[1123] Figuera, WS 1, **RWS-2**, **App. 19**.

[1124] Figuera, WS 1, **RWS-2, App. 19**, p. 3.

[1125] Figuera, WS 1, **RWS-2, App 20**, pp.23-24.

[1126] Figuera, WS 1, **RWS-2, App 21**, p. 14.

[1127] Figuera, WS 1, **RWS-2, App 21**, p. 207.

which was issued after the upgrader came online in 2005, predicted that the OSF could range between 81% and approx. 87% with a mean value of 84.386%.[1128]

777. Thus, contrary to the Claimants' contention that the RAM studies predicted an OSF range between 93% and 84%, the Tribunal finds that each RAM study predicted the OSF that could be achieved over a 20 period based on the status of the upgrader at the time of the study. As the Respondents rightly point out, with each successive RAM study, the predicted OSF reduced and a 93% OSF was considered aspirational at best. These studies were undertaken prior to the Expropriation and by independent third parties. Neither the Claimants' nor their experts have provided any plausible explanation as to why the OSF continuously declined. Thus, the Tribunal is unable to accept the Claimants interpretation of the results of the RAM studies or the fact that this supports their prediction of a 91% OSF for the Hamaca upgrader.

778. Turning to the alleged endorsement of a 91% OSF by the Board of Directors of the Hamaca Project, the Tribunal is of the view that the Claimants' interpretation of the Minutes of the Board Meeting does not withstand scrutiny. The Tribunal notes that the presentation on which the Claimants seek to rely was admittedly presented at the Board Meeting of 17 November 2005.[1129] The original Minutes of the Meeting state as follows:

> *El resultado de los estudios Ram fueron presentados señalando que dichos estudios empezaron muy temprano; se presentaron los estudios Ram I, Ram II y Ram III, indicando que este último fue un etudio más detallado considerando rangos específicos utilizando información de otras partes del mundo con el resultado de un rango de 85.,6% a 91,5% como factor de utilización. Ameriven señaló que en el Ram I fueron muy optimistas indicando como factor de utilización 93% y mencionó que tomando en consideración lo que se construyó, en un periodo de tres años podría alcanzarse un factor de utilización de 91,4%. Ram IV fue realizado con la información y el desempeño de Ameriven del año 2005 dando como resultado un factor de utilización de 84,4%, adicionalmente se mencionó que el Plan General de Negocios establece un factor de utilización de 91,4%* ***cifra esta que es compatible con el pensamiento de ser la mejor planta en el mundo; pero se indicó que sería un reto para Ameriven durante los próximos años el satisfacer esta expectativa****. […] El factor de utilización del Mejorador para el período de los próximos 10 años es 91,4%, en relación con este asunto* ***Ameriven mencionó que tenían que resolver cómo alcanzarían este número, si no el Plan de Negocios necesitaría revisión****. […]*[1130]

779. When translated to English, the above reads as follows:

[1128] Figuera, WS 1, **RWS-2, App. 9**, p. 68.

[1129] C-PHB, § 762, fn. 1343.

[1130] Figuera WS I, **RWS-2**, **App. 022**, pp. 5-6.

> The results of the Ram studies were presented, indicating that the studies began very early; the results of Ram I, Ram II, and Ram III were presented, indicating that the last one was a more detailed study which considered specific ranges, using information from other parts of the world, with the result of a range of 85.6% to 91.5% as an On-Stream Factor. Ameriven said that in Ram I, they were very optimistic, indicating a 93% On-Stream Factor and mentioned that taking into consideration what has been built, in three years an On-Stream Factor of 91.4% could be reached. Ram IV was carried out with the information and performance of Ameriven from 2005, providing a 84.4% On-Stream Factor; in addition, it was stated that the General Business Plan establishes an On-Stream Factor of 91.4%, **number that is compatible with the thought of being the best plant in the world; but it was stated that it would be a challenge for Ameriven during the next years to meet this expectation**. […] The On-Stream Factor of the Upgrader for the next 10 years is 91.4%, regarding this, **Ameriven stated that they needed to figure out how they would reach this number, otherwise the Business Plan would need to be revised**. […][1131]

780. In light of the above, the Tribunal finds that the Minutes merely take on record the various findings of the RAM studies, and once again reiterate their "goal" of achieving an OSF of 91%. At no point do the Minutes state that the Hamaca upgrader was capable of achieving an OSF of 91%. Quite to the contrary, the Minutes state that: (i) "[reaching an OSF of 91%] is compatible with the thought of being the best plant in the world […] but […] that it would be a challenge for Ameriven during the next years to meet this expectation"; and (ii) "Ameriven […] needed to figure out how they would reach [an OSF of 91%], otherwise the Business Plan would need to be revised".[1132] In the circumstances, the Tribunal is equally unable to accept that a 91% OSF was endorsed by the Board of Directors and should therefore be adopted by the Tribunal.

781. In sum, the Tribunal concludes that the Claimants have failed to establish that a 91.4% OSF was achievable by the Hamaca upgrader and that it should be used to calculate production volumes.

782. In addition to the above, the Tribunal also finds that the Claimants have been unable to disprove the OSF proposed by the Respondents. In particular, the Claimants primary reason for questioning the Hamaca OSF is that the Project was under the management and control of the Respondents and that the Respondents' alleged incompetence was in some way responsible for the low OSF. To this effect, the Claimants state that "the performance of the upgrader in the post-nationalization period […] is based on the purported performance of the upgrader under the direction of a new operating company managed and controlled by PDVSA."[1133]

[1131] Figuera WS I, **RWS-2**, **App. 022**, pp. 5-6.

[1132] Figuera, WS 1, **RWS-2, App. 022**.

[1133] Reply, § 412.

783. However, the Tribunal finds that the Claimants' allegations of mismanagement are not sufficiently substantiated by evidence, oral or documentary. More to the point, the Hamaca Project was not solely managed and operated by the Respondents, as the Claimants allege. Chevron was equally involved in the management of the Project. It appears that the Technical and Operations Manager of the Hamaca Project, who was in charge of managing the upgrader, was in fact a Chevron appointee. Given the involvement of another "commercial minded party", the Tribunal is not persuaded by the Claimants' allegations of mismanagement of the upgrader.

784. The Tribunal notes that in order to arrive at their projected OSF the Respondents have relied on the average of the actual OSF achieved at the Hamaca Project for the 11 full years of operation from 2005 through 2015. As per the actual performance of the upgrader, the highest OSF was achieved only in 2005, when the upgrader was brand new. Thereafter, in the approximately 2 years that the Claimants remained participants in the Projects, i.e. 1 January 2006 to 26 June 2007, the OSF was approx. 74% and then 81%. Thus, even when the Claimants were part of the Project, the OSF did drop as low as 74% and in any event did not reach 91%. Thus, the average value of 72.5% proposed by the Respondents in not inconceivable.[1134]

785. In sum, the Tribunal is of the view that the Respondents' OSF estimate for the Hamaca upgrader is more reliable than that proposed by the Claimants and should therefore be accepted.

b. The Coker unit

786. The Tribunal notes that the Respondents' submissions regarding the vibrations plaguing the Coker unit are interlinked with their submissions regarding the capacity of the Hamaca upgrader.

787. In particular, Mr. Figuera states that, "In light of the upgrader's very poor OSF due to other issues, the vibration problem at the coker unit has not had a substantial impact on CCO production to date. However, if the throughput capabilities at the upgrader were to improve significantly (which I do not believe is likely […]), the coker unit would have to operate at higher severity, exacerbating the risks associated with the vibrations."[1135]

[1134] Figuera WS I, **RWS-2**, §§ 37 *et seq.* Table 4.

[1135] Figuera WS I, **RWS-2**, § 46.

788. The implication of Mr. Figuera's above statement is that if the Tribunal accepts the Respondents' OSF value, the "catastrophic failure" of the coker unit would no longer persist. In light of the fact that the Tribunal has decided to adopt the OSF value proposed by the Respondents, the possibility of "catastrophic failure" of the coker need not be accounted for and it will not impact the production of CCO at the Hamaca upgrader.

789. As to the other operational downstream issues (i.e. corrosion, damage to Tank 12), the Tribunal finds that these do not materially impact the decision to prefer the Respondents' production forecast and hence, the Tribunal need not decide upon the same. For the sake of completeness however, and because it impacts the decision on other inputs, the Tribunal will briefly address the issue of the purported low quality of EHCO being produced at the Hamaca field and whether this impacted CCO production.

790. The Tribunal notes that, according to the Respondents, the Hamaca field started producing lower quality EHCO which, in combination with the problems at the upgrader, reduced the volume and/or quality of the CCO being produced. As a result, the Projects had to start selling a lower quality CCO (referred to as the "Special Hamaca Blend"), as opposed to the higher quality CCO marketed by the Hamaca Project prior to the Expropriation.[1136] The Claimants' technical expert does not dispute that, in principle, changes in the quality of the EHCO to be upgraded "would generally tend to the make the EHCO either more difficult to process or would reduce the quality of the CCO produced by the Hamaca Upgrader".[1137]

791. The Tribunal notes that the Respondents' witness, Mr. Figuera, admits that, "given the OSF that has been achieved, less EHCO feed to the upgrader than had been projected at the outset has been required. The project has therefore been able to maintain EHCO feed at about 8.2º API until now."[1138] This statement was made on 15 August 2014. Given this observation and its timing, and coupled with the fact that the projected OSF of the upgrader is rather low (i.e. approx. 72%), the problem of EHCO quality is likely overstated in that lower production and/or quality of the CCO

[1136] Rejoinder, fn. 1203; R-PHB, § 808; Figuera WS I, **RWS-2**, fn. 9; Figuera WS I, **RWS-2, Annex D**, fn. 18; Figuera WS I, **RWS-2, Annex B**, §§ 64-79. Mr. Figuera relies on certain Reports prepared by the Project engineers of the Hamaca Project as well as subsequent technical reports generated by the Hamaca Project. Figuera WS I, **RWS-2 Annex B**, fn. 155, 159; Petrolera Ameriven S.A., Processing of Extra Heavy Crude Oil (EHCO) of Low API Gravity, Technical Note, 11 July 2007, **C-405**.

[1137] Earnest, ER, **CER-7**, § 130.

[1138] Figuera, WS I, **RWS-2**, Annex D, § 22.

produced post-Expropriation seems to be attributable more to the upgrader than to the quality of the EHCO feed. The Tribunal has concluded that the reduced OSF is not attributable to any actions by the Respondents. Accordingly, any changes in CCO quality due to problems with the upgrader's performance would not be attributable to the Respondents either.

C. OIL PRICES

1. The Claimants' position

792. The second step in the Claimants' quantum assessment is to apply a "market price" to the "foregone production volumes" because of the DAs at issue.[1139] For historical losses (i.e. from 2007 to the AUVM's valuation date) the Claimants use the "actual market price of crude oils" which are "publicly available".[1140] For the future period (i.e. from the AUVM's valuation date onwards), crude oil prices are projected "based on currently available market information".[1141]

793. Relying on their quantum expert, Mr. Abdala, the Claimants calculate the *ex post* market price for the CCO of both Projects pursuant to the following inquiry:

i. First, the Claimants ascertain the "actual historical and projected future market prices of a primary price marker", namely, Brent.[1142] To do so, the Claimants elaborate a "single composite forecast for future Brent prices" until the expiration of the Petrozuata and Hamaca AAs (i.e. yrs. 2036 and 2037, respectively) by taking the "median" of "all available reputable Brent forecasts".[1143]

ii. Second, the Claimants determine the price differential between Brent and a regional marker that, due to its associated higher refining costs, has historically traded lower than Brent,[1144] such as Maya crude oil, a sour and heavy crude sold in the Mexican Gulf ("Maya") often benchmarked against Venezuelan crude given the commonalities between both.[1145] The Claimants

[1139] SoC, § 302; *supra*, § IV(B).

[1140] SoC, § 302.

[1141] SoC, § 302.

[1142] SoC, § 303.

[1143] SoC, § 304; Abdala ER I, **CER-3**, §§ 82-83.

[1144] Abdala ER I, **CER-3**, § 84.

[1145] SoC, §§ 303, 305.

reach this variable by "calculating the average differential forecasted by [independent analysts who forecast both Brent and Maya prices] throughout [the] relevant forecast period".[1146] A median of 13.78% is then obtained from the average differentials across the considered analyses. As such, Maya is projected to trade at a 13.78% discount to Brent over the assessed period. Conversely, Maya is projected to trade at 86.22% of the previously calculated Brent forecast.[1147]

iii. Third, the Claimants determine the price differential between Maya and the Projects' CCO in order to project the latter into the future period.[1148] Here, the Claimants compare the historical market prices of the CCO produced by the Petrozuata and Hamaca Projects with the historical market price of Maya.[1149] The Claimants then apply the identified differential to the Maya forecast thus arriving to the future forecast for each of the Projects' CCO.[1150] In this regard, the Claimants submit that the Petrozuata CCO "has historically traded at, or close to the price of Maya".[1151] Hence, for the future period the Petrozuata CCO is projected to trade on par with Maya (i.e. at a 100% of the calculated Maya forecast).[1152] In turn, the Claimants observe a 5.56% premium in terms of the Hamaca CCO-Maya historical price differential. The Claimants therefore project the Hamaca CCO to trade at a 5.56% premium with respect to the calculated Maya forecast.[1153] Pursuant to Articles 14.2(g) of the Hamaca AA, the foregoing 5.56% surplus differential accounts for an Adjusted Price calculated commensurate to a Brent price set at USD 27 per barrel in yr. 1996 USD (indexed for inflation).[1154]

794. The Claimants further submit that, in addition to the Projects' CCO, the market price projections of by-products such as coke, sulfur, and liquefied petroleum gas ("LPG")

[1146] Abdala ER I, **CER-3**, § 85. Mr. Abdala justifies the foregoing approach, "as opposed to deriving a Maya forecast directly from the [available] Maya forecasts", arguing that: (i) it allows incorporating as much information as possible regarding crude oil price expectations; and (ii) using the median of the direct forecasts of the reviewed Maya analysis "would have led to an almost identical Maya price series" (Abdala ER I, **CER-3**, fn. 63). The Respondents' adopt the same methodology (Brailovsky & Flores ER I, **RER-3**, §§ 132-133).

[1147] Abdala ER I, **CER-3**, § 86; Abdala ER II, **CER-8**, §§ 92-93.

[1148] SoC, § 303.

[1149] SoC, § 306.

[1150] Abdala ER I, **CER-3**, § 87.

[1151] SoC, § 306.

[1152] Abdala ER I, **CER-3**, § 87(b); Abdala ER II, **CER-8**, fn. 108.

[1153] Abdala ER I, **CER-3**, § 87(a); Abdala ER II, **CER-8**, § 95; AUVM, C-PHB **Appendix E**, DA Price, Cell F-15.

[1154] Abdala ER I, **CER-3**, § 81.

should also be accounted for in computing Projects' revenues on an annual basis.[1155] In relation to coke and sulfur, the Claimants examine the "historical price information […] available until the date of nationalization and calculate a Brent differential" to project said prices into the future period.[1156] In relation to LPG price, the Claimants calculate a specific differential of Brent, which is applied to both the historical and future periods.[1157]

2. The Respondents' position

795. In order to establish the market price for the Projects' foregone production volumes, the Respondents undertake a similar three-step inquiry as the Claimants.[1158] Thus:

i. First, the Respondents project Brent oil prices into the future based on the median obtained from multiple publicly available forecasts;[1159]

ii. Second, they establish the price differential between Brent and Maya to then apply the said differential to the projected Brent price (therefore obtaining the warranted Maya projection);[1160] and

iii. Third, they determine the price differential between Maya and the Project's CCO to obtain the projected price for both the Petrozuata and the Hamaca CCO.[1161] With respect to the latter, the Respondents account for the calculation of an Adjusted Price pursuant to Article 14.2(g) of the Hamaca AA. Thus, the Hamaca CCO is determined commensurate to a Brent price set at USD 27 per barrel in yr. 1996 USD (indexed for inflation), whilst applying both the Brent-Maya and Maya-Hamaca CCO differentials to said USD 27 Brent price benchmark.[1162]

796. However, the Respondents also submit that, in estimating the Projects' CCO price projections, the Claimants' historical and future periods are premised on: (i) unsubstantiated assumptions; and (ii) non-representative data of the Projects' actual

---

1155 C-PHB, **Appendix F**, § 36(d);.

1156 Abdala ER I, **CER-3**, § 192.

1157 Abdala ER I, **CLEX-002**, Price Forecast, Cell D-29; AUVM, C-PHB **Appendix E**,DA Price, Cell D-29.

1158 R-PHB, § 800; *supra*, § 793.

1159 Brailovsky & Flores ER I, **RER-3**, §§ 123-129; *supra*, § 793.i.

1160 Brailovsky & Flores ER I, **RER-3**, §§ 131-134; *supra*, § 793.ii

1161 Brailovsky & Flores ER I, **RER-3**, §§ 104-105; *supra*, § 793.iii.

1162 Brailovsky & Flores ER II, **RER-7**, § 128; Brailovsky & Flores ER I, **RER-3**, §§ 137-139.

economics or of the crude oil market's recent conditions.[1163] In particular, relying on their quantum experts, Mr. Brailovsky and Mr. Flores, the Respondents argue the following:

i. From the year 2021 onwards (until the expiration of the AAs), Brent must be assumed to remain equal in nominal terms to its median forecasted price in 2020 without adjusting for inflation.[1164] According to the Respondents, this approach factors in the current environment of crude oil prices. On the one hand, it accounts for, *inter alia*, the decision by the Organization of Petroleum Exporting Countries ("OPEC") not to cut crude output despite plummeting oil prices in 2014 (and continuing low prices ever since) along with a weakening global demand.[1165] On the other hand, it alternatively considers OPEC's recent waning role in terms of control over global production, which is likely to shift investor focus on economic growth, inventory data, and political disruptions (as opposed to OPEC production quotas), thus generating greater volatility in oil prices.[1166] In this context, long-term Brent projections beyond 2020 are unreliable and thus it is equally incorrect to accept "simplistic rules such as increases with inflation".[1167] In turn, it is more appropriate to assume an "equal likelihood that [Brent] prices will end up being above or below those forecasted to 2020".[1168]

ii. The pool of analyses forecasting both Brent and Maya prices used by the Claimants' quantum expert to determine the Brent-Maya differential must be expanded.[1169] Accordingly, Mr. Brailovsky and Mr. Flores assess additional forecasts to the ones already considered by Mr. Abdala. By doing so, Mr. Brailovsky and Mr. Flores arrive to a median of 14.11% obtained from the average differentials across all the relevant analyses.[1170] Differently stated, the Maya-Brent differential is set at 14.11%. As such, Maya is projected to trade

[1163] R-PHB, §§ 800-809; *supra*, § 598.

[1164] Brailovsky & Flores ER I, **RER-3**, § 129.c; *supra*, § 793.i.

[1165] Brailovsky & Flores ER II, **RER-7**, §§ 129, 134-135.

[1166] Brailovsky & Flores ER II, **RER-7**, §133.

[1167] Brailovsky & Flores ER II, **RER-7**, § 140.

[1168] R-PHB, § 801.

[1169] *Supra*, § 793.ii.

[1170] R-PHB, § 806; Brailovsky/Flores ICSID Consolidated Report, **App. BF-406**, § 283; Brailovsky & Flores ER I, **RER-3**, § 133; Brailovsky & Flores ER II, **RER-7**, § 150.

at a 14.11% discount to Brent or, conversely, at 85.89% of the previously calculated Brent forecast.

iii. It is not entirely accurate to assume that Maya and Petrozuata CCO will trade on par.[1171] A more comprehensive analysis suggests that the "historical differential between actual Petrozuata CCO and Maya prices" for the relevant period yields an average differential of 0.08%.[1172] Therefore, Petrozuata CCO prices ought to be projected as trading at "100.08% to Maya, indicating that Petrozuata CCO will sell slightly above Maya".[1173]

iv. The alleged 5.56% of Hamaca CCO over Maya calculated by Mr. Abdala does not take into account all the available historical data from the Hamaca Project.[1174] Mr. Abdala "takes actual Hamaca CCO price data only from October 2004 through May 2007".[1175] However, since 2008 the Hamaca Project has been selling a "lower-quality [CCO] instead of the higher-quality [CCO] that it had previously sold".[1176] On average, actual historical data indicates that the Hamaca CCO (i.e. the post-Expropriation lower quality CCO) has sold at 98.36% of Maya,[1177] namely, at a 1.64% discount to Maya which, "consistent with the historical experience", should be projected into the future period until the original expiration of the Hamaca AA.[1178] By not considering the foregoing caveat for the historical period, the Claimants' 5.56% premium "artificially inflat[es]" the compensation owed by the Respondents.[1179]

797. In terms of revenues obtained from the sales of oil by-products,[1180] the Respondents make a distinction between each Project. With respect to the Petrozuata Project, the Respondents rely: (i) on historical data through 2015 for coke and sulfur and on

[1171] *Supra*, fn. 1151-1152.

[1172] Brailovsky & Flores ER I, **RER-3**, § 135; R-PHB, § 807.

[1173] Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** § 286.

[1174] *Supra*, fn. 1153.

[1175] Brailovsky & Flores ER I, **RER-3**, § 141.

[1176] Brailovsky & Flores ER I, **RER-3**, § 135; R-PHB, § 808.

[1177] R-PHB, § 808.

[1178] Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** § 294.

[1179] R-PHB, § 808.

[1180] *Supra*, § 312.

projections based on historical differentials to Brent thereafter;[1181] and (ii) on Brent differentials obtained from the ConocoPhillips Composite Economic Model and project those from 2007 onwards for LPG.[1182] With respect to the Hamaca Project, the Respondents submit that revenues from by-products should not be accounted for given that Article 14.2(f) of the Hamaca AA "exclude[s] such revenues" from the compensation calculation for the Hamaca Project.[1183]

3. Analysis

798. The market price for the Projects' production prospects is certainly an essential item under the DA compensation provisions of both AAs. Its determination defines the Projects' revenues — an input that both Parties agree constitutes the starting point for calculating the indemnity owed to the Claimants under the Petrozuata AA.[1184] Similarly, be it to calculate the Reference Price or the Adjusted Price, Articles 14.2(f) and (g) of the Hamaca AA are clear in that the "SR" input of either the RNFC or the TCF requires the determination of the price applicable to the Hamaca Projects' production volumes.[1185]

799. In this regard, the Tribunal notes that the Parties and their respective quantum experts coincide on the mechanics behind the calculation of the Projects' price variable. Indeed, both Parties: (i) refer to Brent and Maya as the two main pricing benchmarks; (ii) elaborate a Brent price projection until the expiration of the Projects; (iii) calculate a Brent-Maya differential in order to project the price of Maya into the future period; and (iv) finally, calculate a Maya-Petrozuata CCO differential and a Maya-Hamaca CCO differential to determine the price at which the Projects' production volumes would have sold had the DAs at issue not been enacted. In doing so, the Parties account for the quantum constrains imposed by the pertinent DA provisions, namely, the requirement by the Hamaca AA to determine an Adjusted Price commensurate to a fixed Brent of USD 27 per barrel.[1186] The Parties also

---

[1181] Brailovsky & Flores ER I, **RER-3**, § 143; Brailovsky & Flores ER I, **RER-3 App. BF-008**, § 25-27; Brailovsky & Flores ER II, **RER-7**, p. 7 (Table 2), § 164.

[1182] Brailovsky & Flores ER I, **RER-3**, § 143; Brailovsky & Flores ER I, **RER-3 App. BF-008**, §§ 22-24; Brailovsky & Flores ER II, **RER-7**, p. 7 (Table 2), § 164.

[1183] Brailovsky & Flores ER II, **RER-7**, fn. 213; Brailovsky & Flores ER I, **RER-3**, § 143.

[1184] *Supra*, §§ 551-552.

[1185] *Supra*, §§ 553, 557

[1186] *Supra*, §§ 558-561. Article 14.2(g) of the Hamaca AA states that the formula for determining the Adjusted Price must be established either by the "Board" or by a "reputable" expert (*supra* § 557). The Tribunal is unaware of said formula ever being determined by the "Board". In turn, the Tribunal considers that the Parties' quantum experts in this arbitration are more than sufficiently "reputable" to determine the formula for the Adjusted Price. Further, the Tribunal recalls that the Parties' quantum experts agree on how to calculate the Adjusted Price

provide their respective calculations as to the surplus that could have been obtained by the Claimants through the sale of oil by-products, such as coke, sulfur, and LPG. Overall, the application of the DA formulae is not controversial.

800. The differences in the Parties' contentions concern the scope of the data considered in the application of the DA formulae, the justifications for the respective choices, and certain underlying assumptions in relation to some of the relevant variables. In particular, the Parties disagree on the following:

i. Whether the price of the Brent crude benchmark should be assumed to remain nominally flat from 2021 onwards (until the original expiration date of the Projects) without adjusting for inflation;

ii. Whether the Respondents' assessment of additional forecasts is adequate in determining the Brent-Maya differential;

iii. Whether it is accurate to set the Maya-Petrozuata CCO differential at 100% (i.e., that the Petrozuata CCO will trade on par with Maya);

iv. Whether the price of the lower quality CCO sold by the Hamaca Project from 2008 onwards should be considered in the calculation of the Maya-Hamaca CCO differential; and

v. Whether the sources employed by one Party to define the historical and future periods germane to oil by-products are preferable to those used by the opposing Party, and, finally, whether the DA provisions of the Hamaca AA exclude the revenues of by-products.

801. The Tribunal now addresses each issue in turn.

a. *The Brent price benchmark*

802. The crux of the problem regarding the determination of the Brent price benchmark is whether, as argued by the Respondents, it is appropriate to assume that, from 2020

(*supra*, fn. 1154, 1162). In view of this, the Tribunal deems that the requirement of Article 14.2(g) has been complied with. On the other hand, the Tribunal notes that the Petrozuata AA does not contain a similar constrain as the Hamaca AA in terms of requiring compensation commensurate to a fixed Brent price. Instead (given that the historical and expected price of Brent has been above USD 25 per barrel in Yr. 1994 USD), it limits the Respondents' indemnity obligation to: (i) 25% of the harm suffered by the Claimants, as long as said harm for any given year exceeds USD 75 million in yr. 1994 USD; or (ii) 0% of the corresponding harm, if said harm for any given year fails to exceed USD 75 million in yr. 1994 USD. This is common ground between the Parties' experts (*supra* § 549).

onwards, the price of Brent will remain equal in nominal terms without adjusting for inflation.[1187]

803. The Claimants contend that there are no grounds to sustain such an assumption. In their view:

> Brailovsky & Flores seek to justify this constant price assumption by claiming that there are not enough market oil-price forecasts beyond 2020. But that is incorrect: as demonstrated in Dr. Abdala's Second Report, there are a sufficient number of market forecasts extending beyond 2020 to construct a reliable sample, including a forecast from the U.S. Department of Energy's Energy Information Administration. In any event, even if that were not so, there would be no excuse for refusing to recognize price inflation after 2020, as the Brailovsky & Flores forecast irrationally does.[1188]

804. Particularly with respect to the Respondents' position not to account for inflation, the Claimants further emphasize that "Brailovsky & Flores [do] apply inflation of 2% per year to Project costs. As a result, […] crude oil becomes less and less valuable over time in real terms, while extracting it becomes ever more costly".[1189] According to the Claimants, the Respondents' valuation requires accepting that "price of oil stays the same beyond 2020, while the price of everything else goes up";[1190] a premise that, according to Mr. Abdala, "implies that profit margins become consistently lower over time",[1191] and this, in the Claimants' view, "is neither economically nor historically plausible".[1192]

805. The Claimants accurately describe the Respondents' position. Indeed, in light of an identified high volatility of oil prices, the Respondents contend that "forecasting long-term oil prices is a particularly speculative exercise".[1193] According to the Respondents' quantum experts, that explains why "most forecasters simply do not forecast prices more than a few years ahead".[1194] Moreover, with respect to the non-inflation of Brent prices *vis-à-vis* a projected 2% inflation of the Projects' costs, Mr. Brailovsky and Mr. Flores find "nothing odd about profit margins decreasing for particular industries, both historically and in the present".[1195] This is particularly so in

[1187] *Supra*, §§ 800.i., 796.i, 793.i.

[1188] C-PHB, § 796.

[1189] C-PHB, § 795.

[1190] C-PHB, § 795.

[1191] Abdala ER I, **CER-3**, § 90.

[1192] C-PHB, § 795.

[1193] R-PHB, § 801.

[1194] Brailovsky & Flores ER I, **RER-3**, § 125.

[1195] Brailovsky & Flores ER II, **RER-7**, § 145.

the oil industry, where profit margins in akin traditional industries are reportedly "being squeezed".[1196] In this context, the Respondents' quantum experts note that, amidst OPEC's possible market power decline, its hindered capacity to "set crude oil prices above competitive levels" is likely to prompt reduced profit margins as in all other "fully competitive markets".[1197]

806. The Tribunal finds the Respondents' and their experts' concerns and allegations to be justified. First, the Tribunal notes that neither the Claimants nor Mr. Abdala challenge the Respondents' assessment of the recent developments in the oil market industry underlying the Respondents' Brent assumptions.[1198] In particular, the Claimants have not challenged the Respondents' arguments in relation to, *inter alia*: (i) the recent oil price plummet, which Mr. Brailovksy and Mr. Flores describe as a "structural change" in oil pricing;[1199] (ii) the statement that the number of Brent forecasts projecting prices beyond 2021 tend to narrow by over 60%;[1200] and (iii) the possible impact in oil demand of alternative technologies within the automobile industry.[1201] In fact, Mr. Abdala himself recognizes the "difficult[ies]" of "predict[ing]" oil prices.[1202]

807. Second, the sample of long-term Brent pricing forecasts considered by the Claimants and their quantum expert seems insufficient and unconvincing. The Tribunal has noted that, contrary to Mr. Brailovksy's and Mr. Flores' assertion that "there are too few long-term forecasts upon which to rely", Mr. Abdala affirms that there are "many long-term Brent forecasts beyond 2020";[1203] thus Mr. Abdala purports to rely on "15 sources of Brent forecasts to 2025".[1204] However, in the Tribunal's view Mr. Abdala's response does not withstand scrutiny.

[1196] Brailovsky & Flores ER II, **RER-7**, § 145; McKinsey Global Institute, *Playing To Win: The New Global Competition for Corporate Profits*, September 2015, Brailovsky & Flores ER II, **RER-7 App. BF−268**, pp. 6, 33 (McKinsey Global Institute is the business and economic research arm of McKinse & Company). McKinsey Global Institute, About MGI, Brailovsky & Flores ER II, **RER-7 App. BF−269**.

[1197] Brailovsky & Flores ER II, **RER-7**, §146.

[1198] Brailovsky & Flores ER II, **RER-7**, §132; Abdala ER I, **CER-3**, §§ 107-122; *supra*, § 796.i.

[1199] Brailovsky & Flores ER II, **RER-7**, §§ 130-132; R-PHB, § 804.

[1200] Brailovsky & Flores ER I, **RER-3**, § 125; Brailovsky & Flores ER II, **RER-7**, § 139.

[1201] Brailovsky & Flores ER II, **RER-7**, § 134.

[1202] Abdala ER II, **CER-8**, § 90.

[1203] Abdala ER II, **CER-8**, § 90.

[1204] Abdala ER II, **CER-8**, § 90. The Tribunal notes that Mr. Abdala refers to the forecasts issued by AJM, Sproule, GLJ Petrolium Consultants, McDaniel & Associates, Turner Mason & Co, HIS, Wood Mackenzie, EIA, Moody's Analytics, Investec, Credit Suisse, Morgan Stanley, and Banco de Credito del Peru. *See* Abdala ER II, **CLEX-079**, p. 1; *see also*, Abdala/Spiller ICSID Consolidated Report, § 68

808. On the one hand, as pointed out by the Respondents' quantum experts, out of the fifteen forecasts assessed by Mr. Abdala "seven […] do not provide annual projections of crude oil prices beyond 2020; rather, they provide only a single estimated average price for the five year period from 2021 through 2025".[1205] This is the case of the forecasts issued by Moody's Analytics, Investec, Credit Suisse, Morgan Stanley, GKI Research, Commonwealth Bank, and Banco de Crédito del Perú.[1206]

809. On the other hand, perhaps to level out the aforementioned seven forecasts with those remaining in his sample (which do project Brent prices through 2037), Mr. Abdala "extends [said] seven forecasts through 2037 assuming a 2% annual inflation, **even though the forecasters do not make that assumption themselves**".[1207] It follows that, somewhat consistent with Mr. Brailovsky's and Flores' observation that long-term forecasts are scarce compared to short-term forecasts,[1208] Mr. Abdala's sample of true long-term forecasts must be deemed reduced by a 53.3% (i.e. from fifteen to eight). The Parties do not directly discuss whether the reliability of Mr. Abdala's Brent price calculations are affected by this fact. Nevertheless, the Tribunal finds it telling that the Claimants' quantum expert projected such a fundamental pricing benchmark without properly representing the assessed data.

810. Third, the evidence on record suggests that long-term forecasts are particularly speculative. The considerable variation in terms of Brent price estimation between Mr. Abdala's first and second expert reports attest to that. As correctly noted by Mr. Brailovsky and Mr. Flores:

> In his first report in this Arbitration (filed on July 2015), [Mr. Abdala] projected that Brent prices would reach US$ 100 per barrel in 2024. In his second report, just 10 months later, he projected that Brent prices would reach US$ 100 per barrel in 2034, 10 years later. That a long-term projection would change so dramatically in just 10 months shows the lack of reliability of any long-term price projection.[1209]

811. The Tribunal agrees and further notes that even the Claimants' internal documents confirm the apprehension towards relying on long-term price forecasts. During its 2014 annual stockholder meeting, ConocoPhillips only forecasted oil prices through

[1205] Brailovsky & Flores ER II, **RER-7**, § 144; Abdala ER II, **CLEX-079**, pp. 19-20.

[1206] Abdala ER II, **CLEX-079**, pp. 1, 19-20.

[1207] Brailovsky & Flores ER II, **RER-7**, § 144 (emphasis added); Abdala ER II, **CLEX-079**, pp. 19-20.

[1208] *Supra*, fn. 1200

[1209] Brailovsky & Flores ER II, **RER-7**, § 140; R-PHB, § 802.

2017.[1210] Moreover, it did so with a broad margin of error. For instance, for Brent, ConocoPhillips estimated prices ranging from approximately USD 80 to USD 120 per barrel;[1211] a projection that in any event certainly failed to "contemplate the possibility of oil prices dropping into the [USD 30 to USD 40 per barrel] range, as occurred in 2015 and 2016".[1212]

812. Subsequent to this price drop, ConocoPhillips issued an update to its investors on 2 June 2016. There, it did not make any projections beyond 2017.[1213] In addition, ConocoPhillips: (i) acknowledged some of the macroeconomic contingencies driving down oil prices advanced by the Respondents in this arbitration, such as "excess [crude] inventories and ongoing demand uncertainty";[1214] (ii) noted that "rating agencies" have "materially lowered long-term price outlook[s]";[1215] and (iii) more importantly, recognized that the "**[p]ath to price recovery remains unclear**".[1216]

813. In light of the aforementioned circumstances, the Tribunal considers that the Respondents' calculations up to 2020 are appropriate (i.e. reaching Brent price of USD 67.50 per barrel in 2020). Indeed, insofar as they represent short-term projections, the Tribunal deems them more reliable than the Claimants'. That being said, the Tribunal finds that assuming a nominally flat Brent price of USD 67.50 per barrel from 2021 until the expiration of both Projects,[1217] is unfathomable. This is particularly so given that, as pointed out by the Claimants, the Respondents precisely apply a post-2020 yearly 2% inflation rate to the Projects' costs.[1218]

814. The Respondents provide an explanation for such an assumption, by stating that, "in the current environment, long-term crude oil price forecasts assuming simplistic rules such as increases with inflation are simply not reliable".[1219] The implication of that, however, is that world oil prices will be immune to inflation; an assumption that is untenable and in any event has not been adequately substantiated by either the Respondents or their quantum experts.

[1210] Brailovsky & Flores ER I, **App. BF-095**, p. 10.

[1211] Brailovsky & Flores ER I, **App. BF-095**, p. 10.

[1212] R-PHB, § 804.

[1213] Brailovsky & Flores ER II, **App. BF-267**, p. 3.

[1214] Brailovsky & Flores ER II, **App. BF-267**, p. 3; *supra*, fn. 1165.

[1215] Brailovsky & Flores ER II, **App. BF-267**, p. 3.

[1216] Brailovsky & Flores ER II, **App. BF-267**, p. 3 (emphasis added).

[1217] *Supra*, § 796.i.

[1218] C-PHB, § 795; Abdala ER I, **CER-8**, § 89.

[1219] R-PHB, § 801; Brailovsky & Flores ER II, **RER-7**, 140.

815. In turn, the Tribunal finds that the Claimants' assumption of a 2% yearly inflation rate applicable to Brent is reasonable. Therefore, the Tribunal shall apply a 2% inflation rate to the Respondents' post-2020 Brent forecast.[1220] This results in the price of Brent reaching USD 94.52 per barrel in 2037.

b. ***The Brent-Maya differential***

816. The Claimants argue in favor of a Maya differential of a 13.78% discount to Brent (i.e. Maya is projected to trade at 86.22% of the determined Brent forecast),[1221] while the Respondents submit that a 14.11% differential is more appropriate (i.e. Maya is projected to trade at 85.89% of the determined Brent forecast).[1222] The variation between the Parties' differentials boils down to the Respondents' consideration of additional independent analyses forecasting both Brent and Maya prices throughout the relevant forecast period.[1223]

817. The Claimants' quantum expert does not *per se* contest the use of additional sources in calculating the Brent-Maya differential. Rather, Mr. Abdala submits that the Respondents' quantum experts "end up with an overestimated differential" by: (i) basing their calculation on both "short-term forecasts (Barclays, Platts and JP Morgan)" and "long-term forecasts";[1224] and (ii) assigning "the same weight to the short-term differential forecasts as the long-term differential forecasts, despite the fact that long-term differentials are generally lower than short-term differentials (and short-term forecasts were trending downwards)".[1225]

818. The Tribunal finds Mr. Abdala's arguments to be unpersuasive. First, as pointed out by Mr. Brailovsky and Mr. Flores,[1226] the Tribunal notes that Mr. Abdala also relied on both short-term and long-term differentials in his first expert report. In particular, Mr. Abdala then based his calculations on, *inter alia*, one of the criticized short-term

---

[1220] Abdala ER II, **CER-8**, § 91.

[1221] Abdala ER I, **CER-3**, §§ 85-86; Abdala ER II, **CER-8**, §§ 92-93.

[1222] R-PHB, § 806; Brailovsky/Flores ICSID Consolidated Report, **App. BF-406**, § 283; Brailovsky & Flores ER I, **RER-3**, § 133; Brailovsky & Flores ER II, **RER-7**, § 150.

[1223] Barclays, *Energy: US Crude Export Ban Lift: EPS Changes*, December 21, 2015, Brailovsky & Flores ER I, **RER-3 App. BF−86**; BMO Capital Markets, *Oil & Gas: Lower for Long Enough*, December 22, 2015, Brailovsky & Flores ER I, **RER-3 App. BF−87**; Phil Gresh, John M. Royall and Anthony Yu, J.P. Morgan, *Refining 2016 Outlook*, December 15, 2015, Brailovsky & Flores ER I, **RER-3 App. BF−88**; *Steps, though Deleveraging Still a Long Journey*, August 15, 2016, Figure 12 - Global Macro Assumptions, August 15, 2016, Brailovsky & Flores ER I, **RER-3 App. BF−256**, Barclays, *Petrobras: Positive,* p. 16; Brailovsky & Flores ER I, **RER-3**, § 135; Brailovsky & Flores ER I, **RER-3**, § 133; Brailovsky & Flores ER II, **RER-7**, § 150.

[1224] Abdala ER II, **CER-8**, § 93;

[1225] Abdala ER II, **CER-8**, § 93;

[1226] Brailovsky & Flores ER II, **RER-7**, fn. 265.

forecasts used by the Respondents' quantum experts, namely, Platts.[1227] In view of the foregoing, the Tribunal observes that Mr. Abdala "first calculate[d] the average implied price differential forecasted for each individual analyst for the forecast period, and then compute[d] the median of the average price differentials".[1228] Therefore, in line with Mr. Brailovsky and Mr. Flores, Mr. Abdala likewise assigned the same weight to short and long-term forecasts in his initial determination of the Brent-Maya differential.[1229]

819. Second, it does not seem to the Tribunal that the consideration of additional short-term forecasts together with long-term forecasts would be unwarranted. To the contrary, the Tribunal agrees with the Respondents' quantum experts in that, "given [the] few forecasters […] for Maya, using short-term forecasts (when available) alongside long-term forecasts can help increase the sample size and the reliability of the median differential".[1230] To some extent, Mr. Abdala appears to share the same understanding. Indeed, when justifying his methodology for calculating the Brent-Maya differential (i.e. using forecasts employing both Maya and Brent as opposed to those exclusively using Maya-based forecasts and with which the Respondents agree), Mr. Abdala stressed the importance of "allow[ing] the "incorporat[ion]" of "as much information as possible regarding crude oil price expectations".[1231] The exclusion of additional short-term forecasts (and arguably less speculative), such as those employed by the Respondents, seems to run contrary to that logic.

820. In light of the above, the Tribunal deems that the Respondents' expansion of the pool of assessed forecasts is apposite for the purposes of achieving a more solid statistical sample. This will in turn lead to greater confidence in the projected forecast. Accordingly, the Tribunal determines that the Maya differential must be set as

---

[1227] Abdala ER I, **CER-3**, § 189. The Tribunal notes that the Platts forecast was initially considered by Mr. Abdala to be a long-term forecast (Abdala ER I, **CLEX-039**, pp. 1, 3). Such a classification, however, does not withstand scrutiny. Unlike the other forecasts used by Mr. Abdala (i.e. AJM Deloitte, Sproule, Turner, Mason & Company, IHS, GLJ Petroleum Consultants, and Wood Mackenzie), which project prices through the expiration of the AAs, Platts only accounts for a 5-year forecast.

[1228] Abdala ER I, **CER-3**, § 189.

[1229] The Tribunal notes that, in his second expert report, Mr. Abdala disposed of the use of short-term forecasts. Indeed, the Platts short-term forecast appears to have been replaced by a long-term forecast issued by BMO (Abdala ER II, **CLEX-079**, p. 2). This perhaps explains why the 14.81% differential established in Mr. Abdala's first expert report was subsequently reduced to a 13.78% differential in his second expert report (Abdala ER I, **CER-3**, §§ 190, 86; Abdala ER II, **CER-8**, § 92). Nevertheless, the foregoing substitution simply maintains the same number of forecasts in the Claimants' pool of assessed samples. The fact that the Respondents' quantum experts consider additional forecasts, albeit both short and long-termed, seems preferable in terms of attaining a more reliable differential (*infra*, § 603).

[1230] Brailovsky & Flores ER II, **RER-7**, fn. 265.

[1231] *Supra*, fn. 1146.

calculated by the Respondents' quantum experts, namely, at a 14.11% discount to Brent.

c. ***The Maya-Petrozuata CCO differential***

821. On this point, the Parties are in virtual agreement. The Claimants suggest a Maya-Petrozuata CCO differential of 0%, that is, an estimation that the Petrozuata CCO will trade at 100% of the calculated Maya forecast.[1232] The Respondents' position varies slightly: they calculate a Maya-Petrozuata CCO differential of 0.08%, suggesting that the Petrozuata CCO will trade at 100.08% to Maya.[1233]

822. The Tribunal is of the view that the Respondents' calculations are preferable. First, the Tribunal notes that Mr. Abdala's 0% differential is premised on the observation that, historically, the Petrozuata CCO has traded "at" or "close" to the price of Maya.[1234] Such a standard, being undetermined, tolerates variations such as the 0.08% premium calculated by the Respondents.

823. Second, when confronted with the Respondents' slight differential adjustment, Mr. Abdala did not consider the calculations by Mr. Brailovsky and Mr. Flores to be erroneous. To the contrary, Mr. Abdala concedes to be "essentially [in] agree[ment]" with the Respondents' quantum experts,[1235] and that the latter's calculation "is very close to [his] zero differential".[1236]

824. Third, Mr. Abdala accepts that Mr. Brailovksy's and Mr. Flores' Maya-Petrozuata CCO differential is "based on updated information on Petrozuata syncrude prices".[1237]

825. Fourth, Mr. Abdala states that his calculation of the Maya-Petrozuata CCO differential has been updated by "apply[ing] the actual information introduced by Respondents for the historical period".[1238] However, Mr. Abdala nonetheless "retain[s]" his "forecasted Petrozuata syncrude price at par with [his] Maya forecast".[1239] The

[1232] Abdala ER I, **CER-3**, § 87(b); Abdala ER II, **CER-8**, fn. 108.

[1233] Brailovsky & Flores ER I, **RER-3**, § 135; R-PHB, § 807; Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** § 286.

[1234] SoC, § 306.

[1235] Abdala ER I, **CER-3**, § 95.

[1236] Abdala ER I, **CER-3**, fn. 108.

[1237] Abdala ER I, **CER-3**, fn. 108.

[1238] Abdala ER I, **CER-3**, fn. 108.

[1239] Abdala ER I, **CER-3**, fn. 108.

Tribunal thus finds Mr. Abdala's insistence on a 0% differential to be somewhat contradictory.

826. In light of the above, the Tribunal determines that the proper Maya-Petrozuata CCO differential must be set at a 0.08% premium over Maya. As such, the foregone production volumes of the Petrozuata CCO must be indemnified under the DA provisions of the Petrozuata AA assuming that the Petrozuata CCO has and will trade at 100.08% to Maya.

d. ***The Maya-Hamaca CCO differential***

827. The issue here relates to the post-Expropriation sale of a lower quality CCO trading at a discount to Maya, as opposed to premium to Maya as occurred pre-Expropriation. The Respondents contend that the need to produce said lower quality CCO responds to the reduced performance of the Hamaca upgrader and the lower quality of the EHCO feed in need of processing.[1240] In turn, the Claimants argue that the alleged change in quality is the result of post-Expropriation managerial decisions for which the Claimants "cannot be penalized".[1241]

828. Having considered the Claimants' arguments,[1242] the Tribunal has come to the conclusion that, post-Expropriation, the Hamaca Project has effectively sold lower quality CCO at a discount to Maya.[1243] This seems to be undisputed by Mr. Abdala.[1244]

829. In this regard, the Tribunal has established elsewhere that the changes in CCO quality are not attributable to actions by the Respondents.[1245] In view of this, the Tribunal finds no reason to depart from the *ex post* historical price data provided by

[1240] *Supra*, § 796.iv; R-PHB, fn. 1722.

[1241] Reply, § 430; C-PHB, § 797.

[1242] C-PHB, § 797 ("Respondents have not proven that such a change has actually occurred […]").

[1243] Brailovsky & Flores ER I, **RER-3**, fn. 246.

[1244] Abdala ER II, **CER-8**, §§ 86, 95 ("For the period up to 2016, the major difference between the experts' assumptions is Brailovsky and Flores's use of a lower price for the **syncrude** sold by the Hamaca Project […]. While Brailovsky and Flores and I essentially agree on the price relationship between Petrozuata **syncrude** and Maya crude, we disagree with respect to Hamaca **syncrude**. Brailovsky and Flores rely upon pricing data from crude oil sold by Hamaca post-expropriation, which was influenced **by the sale of a lower quality, and thus lower priced, syncrude**") (emphasis added). In this regard, the Tribunal notes that the Claimants refer to "syncrude" or "SCO", terms that stand for Synthetic Crude Oil, as upgraded ECHO (SoD, § 48). In turn, the Tribunal recalls that the term "CCO", which stands for "Commercial Crude Oil", also refers to upgraded EHCO (*supra*, fn. 1028). It follows that the terms Commercial Crude Oil, CCO, Synthetic Crude Oil, syncrude, and SCO, can be used interchangeably (*supra*, fn. 900). Indeed, the Claimants themselves have expressly adhered to this view (Tr. (Day 11) 2823:18 - 2824:2 (Flores)).

[1245] *Supra*, § 791.

the Respondents (denoting that Hamaca CCO has traded at a discount to Maya). For the valuation's future period, the Tribunal shall therefore apply a negative Maya-Hamaca CCO differential of 1.64%. Accordingly, the foregone production volumes of Hamaca CCO must be compensated under the assumption that Hamaca CCO has and will continue to trade at 98.36% of Maya.

e. *By-products*

830. The Parties' submissions do not openly discuss the Projects' by-products or their pricing. Rather, it is the Parties' respective quantum experts that deal with the matter. In this regard, the Tribunal notes that there is only one main contention raised by Mr. Brailovksy and Mr. Flores, namely, that the Hamaca AA excludes the consideration of by-products when calculating the compensation owed to the Claimants under its DA provisions.[1246] As such, the Respondents' quantum experts submit that Mr. Abdala errs by "including the by-product revenues in his calculations" for Hamaca, as he did in his first expert report.[1247]

831. All the other specificities as to how to determine the sale price of coke, sulfur, and LPG are not really in dispute. Mr. Brailovksy and Mr. Flores do differ from Mr. Abdala in terms of the methodology and sources used to determine the historical and future price for each item.[1248] Yet, neither expert openly characterizes the other's approach as flawed or necessarily incorrect. Accordingly, the Tribunal understands that it is called upon to decide which employed methodology and sources are more appropriate in light of all relevant circumstances.

832. With the foregoing in mind, the Tribunal notes that the exclusion of by-product sales from the compensation owed to the Claimants under the DA provisions of the Hamaca AA is ultimately uncontroversial. As to whether or not Article 14.2(f) of the Hamaca AA excludes by-products,[1249] in his second expert report Mr. Abdala stated having "corrected the treatment of Hamaca's by-product revenues under the Discriminatory Provisions Scenario".[1250] Correspondingly, Mr. Brailovsky's and Mr. Flores' second expert report highlights as an "Are[a]r of Agreement between Claimants and Respondents" that the "[c]ompensation calculations for the Hamaca

---

[1246] *Supra*, fn. 1183.

[1247] Brailovsky & Flores ER I, **RER-3**, § 162.

[1248] *Supra*, §§ 794-797.

[1249] *Supra*, fn. 1183.

[1250] Abdala ER I, **CER-3**, fn. 16.

Projec[t] assume no royalty on […] coke and sulfur".[1251] Moreover, in his updated valuation model Mr. Abdala only appears to assign value to revenues obtained from CCO sales.[1252] Therefore, the Tribunal is of the view that Mr. Abdala has addressed the issue and deems the matter closed. In other words, the Tribunal does not needs not make a particular determination on this issue, as a decision in favor of either Party should have no impact on the quantum of this case.

833. With respect to coke and sulfur, the Respondents' quantum experts rely on the historical figures provided by Mr. Figuera to establish the coke and sulfur prices from 2007 through 2015. Mr. Brailovsky and Mr. Flores then calculate the average differentials to Brent, which they then use to project their coke and sulfur prices from 2016 onwards.[1253] While adopting the same underlying methodology, the Claimants' quantum expert obtains the corresponding Brent differential from historical data running from 2005 to 2007 (i.e. pre-Expropriation data).[1254]

834. In the context of an *ex post* date-of-award valuation, the Respondents' reliance on post-Expropriation data is *ab initio* preferable. However, as established elsewhere, *ex ante* data may be preferred where the Tribunal determines that a particular set of *ex post* data is unsubstantiated.[1255] This appears to be the case at hand. Indeed, the data provided by Mr. Figuera to Mr. Brailovksy and Mr. Flores seems to be unsourced; it lacks supporting documentation.[1256] As such, it cannot be corroborated. Given that neither the Respondents nor their quantum experts refer to additional or otherwise objective evidence aside from Mr. Figuera's testimony, the Tribunal deems the Respondents' coke and sulfur calculations and projections to lack documental support. Accordingly, the Tribunal shall apply the calculations offered by Mr. Abdala despite being grounded on *ex ante* data.

835. As to LPG, the issue turns on the calculation of the most suitable LPG-Brent differential, as both Parties' experts define their LPG projection based on some

[1251] Brailovsky & Flores ER II, **RER-7**, Table 6.

[1252] AUVM, C-PHB **Appendix E**, DA Revenues (HC), Cell B30. The Tribunal notes that the referred tab makes no mention to LPG. However, contrasted with the tab dealing with Petrozuata revenues ("Revenues (PZ)"), which does, the Tribunal understands that, *a contrario*, the "DA Revenues (HC)" tab assigns no value to LPG sales.

[1253] Brailovsky & Flores ER I, **RER-3**, fn. 256-257; Brailovsky & Flores ER II, **RER-7**, fn. 296; Brailovsky & Flores ER I, App. BF-008, §§ 26-27.

[1254] Abdala ER I, **CER-3**, § 192.

[1255] *Supra*, §§ 578-580.

[1256] Figuera WS I, **RWS−2,** fn. 78, 141, 143; Figuera WS I, **RWS-2**, **Annex A**, §§ 13, 39; Figuera WS I, **RWS-2, Annex D**, § 102.

differential to Brent.[1257] Mr. Brailovsky and Mr. Flores calculate theirs from differentials included in the ConocoPhillips Composite Economic Model.[1258] Mr. Abdala, however, is unclear as to the sources utilized for the calculation of his 74.49% LPG-Brent differential.[1259] In fact, the Tribunal notes that the Respondents' quantum experts characterize Mr. Abdala's differential as "unsourced";[1260] an assertion that neither the Claimants nor Mr. Abdala appear to have rebutted. In view of this, the Tribunal finds the Respondents' LPG calculations to be more reliable than the Claimants'. The LPG price projection must therefore be calculated in accordance with an LPG-Brent differential of 57.86%, as calculated by the Respondents' quantum experts.[1261]

D. PROJECT COSTS

836. The next step in the assessment of damages is to determine the Projects' costs, namely the expected capital expenses ("CAPEX") and the expected operating expenses ("OPEX"). This input of the quantum analysis actually comprises two sub-inputs: first, whether actual costs incurred post-Expropriation should be accounted for in the costs projections and to what extent; and second, how should the overall costs be adjusted to account for macroeconomic factors such as inflation and prevailing exchange rate between the Venezuelan Bolivar and the USD (the latter being the currency in which revenues were earned). The Tribunal will first set out the Parties' positions before setting out its determination of the above two issues in turn.

1. The Claimants' position

837. In respect of the Projects' expected costs, Mr. Abdala argues that "production and costs are closely related, as costs represent the inputs needed to obtain a certain level of production".[1262] Consequently, in order to ensure consistency between his cost and production estimates, Mr. Abdala relies on the same pre-Expropriation business planning documents that he used to forecast the production volumes for each Project: specifically, the Composite Economic Model for the Petrozuata Project and the Ameriven Model for the Hamaca Project.

[1257] *Supra*, fn. 1157, 1182.

[1258] Brailovsky & Flores ER I, **RER-3**, § 143; Brailovsky & Flores ER I, **App. BF-008**, §§ 22-24; Brailovsky & Flores ER II, **RER-7**, p. 7 (Table 2), § 164.

[1259] Abdala ER I, **CLEX-002**, Price Forecast, Cell D-29; AUVM, C-PHB **Appendix E**, DA Price, Cell D-29.

[1260] Brailovsky & Flores ER II, **RER-7**, p. 7 (Table 2).

[1261] Brailovsky & Flores ER I, **App. BF-008**, § 23.

[1262] Abdala ER II, **CER-8**, § 72.

838. The Composite Economic Model estimates total CAPEX (expressed in real terms) for the Petrozuata Project as USD 1,955 million from June 2007 until 2036.[1263] Similarly, the Ameriven Model estimates total CAPEX (in real terms) for the Hamaca Project as USD 3,369 million from June 2007 until 2037.[1264] The aggregate OPEX predicted by these Models for both Projects is USD 27.5 billion. Mr. Abdala then adjusts these projections upwards to obtain the nominal values.[1265]

839. As was the case with production volumes, Mr. Abdala states that he cannot rely on the actual post-Expropriation data as it does not accurately reflect the costs that would have been incurred applying a but-for analysis. Hence, he uses the projections in the abovementioned models instead.[1266]

840. Having so determined the costs estimates and projections, Mr. Abdala adjusts the same to bring them to nominal terms by applying the US Producer Price Index for inflation.

841. Turning to the Respondents' case on Project costs, the Claimants submit that the "additional costs" sought to be included by Mr. Brailovsky and Mr. Flores are "(i) unreasonable and/or unnecessary; (ii) unsupported by the evidence; and (iii) ever-changing, and therefore unreliable".[1267] On this basis, the Claimants assert that the additional costs sought to be included by the Respondents should be disallowed.

842. In addition, Mr. Abdala also states that Mr. Brailovsky and Mr. Flores overstate costs by using an exchange rate for Bolivar-denominated costs that does not reflect how the Projects would have operated with a private entity like the Claimants. In doing so, the Respondents further reduce the extent of damages payable.[1268]

843. In sum, the Claimants assert that the Tribunal should disregard the additional costs proposed by the Respondents and instead adopt the costs projections in the 2006 Models alone. Moreover, with respect to applicable inflation and exchange rates, the

---

[1263] Abdala ER I, **CER-3**, § 78; **CLEX-007**.

[1264] Abdala ER I, **CER-3**, § 72; **CLEX-031**.

[1265] Nominal values are those that are adjusted for inflation. The Parties' arguments regarding inflation will be discussed subsequently. Mr. Abdala converts the constant-dollar operating expenses projections to U.S. nominal-dollar terms using an escalation index composed of: (a) a specific U.S. PPI index measuring inflation in the E&P industry between year 2006 and the date of valuation; and (b) anticipated E&P inflation, which he estimates by using an index composed of expected U.S. general inflation (weighted 85%) and expected crude oil price variation (weighted 15%) from the date of valuation.

[1266] Abdala ER II, **CER-8**, § 70.

[1267] C-PHB, § 810.

[1268] Abdala ER II, **CER-8**, § 66(b), Table 9.

Claimants emphasize that a more favourable exchange rate should apply in order to nullify the effect of inflation, and provide a true reflection of Project costs.

2. The Respondents' position

844. Although the Respondents also start their cost estimates with the Composite Economic Model and the Ameriven Model, they disagree with the approach followed by the Claimants which in their view "fails to take into account actual operating experience from 2007" and assumes that costs unforeseen in the 2006 models would not have been incurred in the but-for scenario.[1269]

845. The Respondents' experts state that it is an "elementary fact that, because of the inherent uncertainties in oil development projects, budgets are frequently revised and updated. These updates include managerial changes, such as the decision to drill additional wells, or adjustments to account for macroeconomic factors, such as changes in oil prices or host-country inflation."[1270] Accordingly, they assert that the 2006 business documents cannot form the exclusive basis for assessing costs in a but-for analysis. Consequently, in order to account for the environment that the Projects would have experienced, the Respondents' experts include actual *ex post* cost data based on the testimony of Mr. Figuera and Mr. Patino.[1271] The additional costs included by the Respondents are costs incurred for well drilling and repairs, solids handling, turnaround and maintenance of the Projects' upgraders and other operational costs not contemplated in the 2006 business planning documents, which resulted in higher OPEX and CAPEX for the Projects.

846. In response to the Claimants' criticism of their cost projections, the Respondents submit that the costs sought to be included by them are sufficiently substantiated and reliable and should therefore be included.

847. Having thus provided their cost estimates, which include actual *ex post* costs, the Respondents adjust these costs for inflation. In this respect, the Respondents critique the Claimants' approach, asserting that by "convert[ing] the bolivar-based costs from the 2006 models to their [USD] equivalents in 2006 [USD] [and] then inflat[ing] those costs using a U.S. inflation index [the Claimants] completely immunize the Projects

[1269] Brailovsky/Flores ICSID Consolidated Report, § 192.

[1270] Brailovsky/Flores ICSID Consolidated Report, § 192.

[1271] Brailovsky/Flores ICSID Consolidated Report, §§ 206-207; Figuera WS I, **RWS-2**, §§ 40, 42, 51, fn. 114. *See also*, Figuera WS I, **RWS-2, Annex D**.

from Venezuelan inflation and exchange rate policies, as if the Projects were located in Texas, [and] subject only to U.S. inflation."[1272]

848. The Respondents recall that the Projects were in Venezuela and thus take into consideration Venezuelan inflation rates and the absence of timely devaluation of the Bolivar, which together resulted in increased costs. Accordingly, while accounting for inflation and exchange rates, the Respondents' experts duly account for the Projects' costs actually incurred in Bolivars and are therefore subject to the effects of the Venezuelan macroeconomic factors.[1273]

3. Analysis

849. The Tribunal notes that the starting point for both Parties' experts to estimate Projects costs in the but-for analysis are the 2006 business planning documents previously used by Mr. Abdala to forecast oil production, i.e., the Composite Economic Model for the Petrozuata Project and the Ameriven Model for the Hamaca Project.

850. From this common starting point however, the Parties' experts go their separate ways. The dispute in connection with the Project's CAPEX and OPEX projections revolves around the following issues: first, whether the Projects costs should be purely those indicated in the 2006 models (as argued by the Claimants) or whether they should take into account additional costs incurred/to be incurred by the Projects after the Expropriation (as argued by the Respondents) (**IV.D.3.a**). Second, having determined the Projects costs, how should inflation and exchange rates be accounted for (**IV.D.3.b**).

851. The Tribunal addresses each of the above issues below.

a. *Whether the Projects' cost projections should include post-Expropriation "additional costs"?*

852. The Tribunal notes that the dispute between the Parties revolves around whether or not the following categories of costs should be included as part of Project costs in an *ex post* valuation:[1274]

[1272] R-PHB, § 772.

[1273] Brailovsky & Flores ER I, **RER-3**, n 65; Brailovsky & Flores ER 2, **RER-7**, §§ 46-47, 57-61, 157.

[1274] The Tribunal notes that the dispute is not whether a particular category of cost should be accounted towards OPEX or CAPEX, but rather whether this category should be included in the costs projections at all. In the circumstances, the Tribunal shall examine each category individually to the extent that the Parties' submissions allow it to do so. The Tribunal finds that this is also reflective of the methodology in the AUVM. However, for the

i. Well repair costs;

ii. Costs incurred towards solids handling at the Petrozuata Project;

iii. Costs incurred towards PRAC and PREMs in connection with the Hamaca upgrader;[1275]

iv. Drilling and related costs;

v. Costs associated with upgrader turnaround at both Projects; and

vi. Costs associated with electricity generation, installation of firefighting equipment and other upgrader related improvements at the Projects.

853. Given that the Respondents assert the inclusion of the above cost categories, the Tribunal considers it apposite to first set out the Respondents' position and then the Claimants', before setting out its determination with respect to each category.

i. <u>The Respondents' position</u>

854. The Respondents overall position on the "additional costs" can be summed up as follows:

> [T]he "additional costs" included by Respondents and their experts in the historical period are appropriately supported and would have been incurred in a "but for" world. The costs that have not yet been incurred but that will be required in the future are fully supported by the record. That some cost items have been dropped (e.g. expansion and modernization at the solids handling facility) or deferred (e.g. firefighting systems at Petrozuata) does not change the fact that costs that were incurred would have been incurred in the "but for" world. Finally, the fact that the pre-nationalization models do not include the additional costs is completely irrelevant to an *ex-post* analysis. Indeed, the fact that the Claimants' *ex post* costs match their *ex ante* costs (except for U.S. inflation) shows that their entire *ex post* analysis is not credible, as the one thing certain in any long-term oil project is that cost projections cannot be accurate for 30 years. The essence of any *ex post* analysis is to take account of the changes that invariably occur over the course of those 30 years, not to blindly follow projections that bear no relationship to reality, as the Claimants want this Tribunal to do.[1276]

855. In light of the above general position, the Respondents address each of the cost categories and the Claimants' objections to their inclusion as follows:

sake of clarity, the Tribunal notes that the disputed additional OPEX comprises of (i)-(iii) above and disputed additional CAPEX comprises of (iv)-(vi).

[1275] PRAC stands for "Restoration Plan for Critical Assets" and PREM stands for "Restoration Plan for Major Equipment". *See infra*, fn. 1314.

[1276] R-PHB, § 799.

(1) Well repair costs

856. As regards well repair cost estimates, the Respondents' experts propose a figure of USD 360,000 (in Yr. 2007 USD) per well, on the basis that this was the same figure proposed in the *Mobil* ICC and ICSID cases. In response to the Claimants' criticism that use of this estimate is not reliable, the Respondents explain that the wells at issue in the *Mobil* cases and those at the Petrozuata and Hamaca Projects are very similar. Accordingly, it can be expected that the average cost of a relatively straightforward well repair (such as a pump replacement) will be the same.[1277]

(2) Solids Handling facilities

857. The Tribunal understands that a significant amount of coke and sulphur are produced as by-products when EHCO is upgraded to CCO. These by-products have to be loaded onto vessels for transportation to markets elsewhere. The Petrozuata Project operates a Solids Handling Facility where the solids (coke and sulfur) from the Projects are collected, prepared for shipment and loaded onto vessels for export.[1278]

858. It appears that there were two post-Expropriation incidents in 2009 (i.e. after the Claimants relinquished control of the Projects), which damaged the Solids Handling Facility and resulted in several hundred million dollars being expended to repair the same. That aside, while the Solids Handling Facility was out of commission, the coke and sulphur had to be stored in temporary storage piles in the vicinity.[1279] For the purposes of transporting the solids to the temporary storage, trucks had to be hired and costs incurred in this respect. The Respondents claim additional trucking costs of USD 250 million.[1280]

859. In response to the Claimants, the Respondents' rather brief submission on the costs incurred with respect to the Solids Handling Facility and those incurred for trucking is that (i) despite repairs being implemented, the Solids Handling Facility was not operating properly; and that therefore (ii) trucking costs had to be incurred and (iii) if such costs were not incurred, it would mean that upgrading operations would have to

[1277] Patiño ER I, **RER-4**, fn. 20; Patiño ICSID Consolidated Report, fn 179.

[1278] Earnest ER, **CER-7**, § 102.

[1279] Tr. (Day 5), 1284:3-14 (Mr. Figuera); Figuera WS I, **RWS-2, Annex D**, §§ 99-101.

[1280] These OPEX were incurred as follows: USD 7,151,325 in 2009, USD 3,001,293 in 2010, USD 35,322,929 in 2011, USD 96,351,309 in 2012, USD 64,466,776 in 2013 and USD 66,784,442 in 2014. Figuera WS I, **RWS−2**, **Annex E**, nn. 171, Figuera WS I, **RWS−2**, nn. 153-154. Mr. Figuera notes that "the costs relate not only to transporting the coke and sulfur, but, as the contracts show, also to the management of the large piles of coke, labor, fire prevention and other costs".

be curtailed in order to reduce the production of solid by-products.[1281] Thus in a nutshell, the Respondents' defense is that such costs were necessary and were in fact incurred and therefore should be accounted for.

(3) PREM and PRAC costs

860. As noted above, the PREM and PRAC were authorized and implemented in 2012 by the Project partners at the time (i.e. PDVSA Sub and Chevron) in order to improve the OSF of the Hamaca upgrader. It is not disputed that despite the PREM and PRAC, such improvements have been negligible.

861. According to the Respondents however, merely because certain costs are not contemplated in the 2006 business planning documents is not reason enough to disqualify them from being included in the *ex post* assessment.[1282] They add that in this instance, the PREM and PRAC costs were approved by all Project participants including Chevron, and were pursuant to a detailed assessment of the problems at the Hamaca upgrader.[1283] As such, they contend that the fact that these costs had to be incurred is not unjustified.

862. Regarding the Claimants' contention that the PREM and PRAC costs are unsubstantiated, the Respondents contend that the Claimants have "ignored the stacks of documents that have been appended to Mr. Figuera's witness statements and produced in the document production phase of this case".[1284] They further object to the Claimants' attempt to account for every single dollar spent and argue that the evidence produced is sufficient proof that the amounts claimed have been incurred and should be counted in an *ex post* valuation.[1285] As regards the alleged lack of substantiation of the cost of future PRAC and PREMs, the Respondents submit that these have not been incurred and therefore by definition, there cannot be invoices or other documents in support of the same. Instead, they note that their witness Mr. Figuera has made a good faith estimation that the average cost of future PREMs will replicate the average cost of the previous PREMs and on this basis arrived at cost estimates.[1286] Accordingly, the Respondents submit that the cost projections for

---

[1281] R-PHB, § 792; Figuera WS 2, **RWS-4**, fns. 50, 52.

[1282] R-PHB, § 787.

[1283] Figuera, WS I, **RWS-2**, § 40. C-PHB, fn 1266, 1503; Figuera, WS I, **RWS-2**, **App. 43**.

[1284] C-PHB, fn 1677.

[1285] C-PHB, § 788.

[1286] Figuera, WS I, **RWS-2**, §§ 40, 51(i), n.146.

PREM in 2016-2022 are reasonable and should be accounted for in the *ex post* calculations.

(4) Drilling and well pads costs

863. The Respondents allocate the following drilling costs: USD 2,900,000 per well for single lateral wells used in cold production, USD 3,800,000 for EOR wells plus USD 1,800,000 per well for surface facilities for the Hamaca Project and USD 3,500,000 for dual lateral wells along with associated costs for the Petrozuata Project.[1287] In support of their drilling costs estimates, the Respondents submit that the Claimants' own witnesses have acknowledged the reasonableness of the Respondents' projections. In particular, the Respondents point out that Mr. Brown testified that USD 3.5 million as overall drilling costs for the Petrozuata Project is a reasonable estimate and also comports with the Claimants' own estimates made in 2006.[1288] This was also confirmed by another of the Claimants' witnesses during the ICSID proceedings.[1289]

864. As regards the Claimants' allegation that the Respondents are including costs for drilling wells fitted with EOR but not accounting for incremental production which would result due to the use of EOR, the Respondents' experts clarify that they have only included the CAPEX associated with drilling EOR compatible wells. Their costs estimates do not include additional CAPEX or OPEX that would have been incurred had EOR projects actually been implemented at the Projects. Accordingly, they submit that there is no contradiction between their costs estimates and production profiles and thus, the former in relation to drilling costs ought to be allowed.[1290]

(5) Turnaround costs

865. According to the Respondents, the discrepancy between the "turnaround costs implicit in the 2006 models and the costs actually incurred by the Projects shows the absurdity of relying on outdated economic models", as Mr. Abdala does, for projecting

[1287] Reply, § 455.

[1288] Tr. (Day 4); 959:24-960:16 (Mr. Brown) (**Q.** Okay. And then right next to where I was looking, it says: "Incremental CAPEX assumes 3.5"--MM is million; right? **A.** I believe so, yes. **Q.** "3.5 million average per well"? **A.** That's what I would read that as: 3.5 million average per well. That would be normal nomenclature. **Q.** Okay. And was what the cost of the wells were that were being inspected at the time? **A.** I presume that is the cost of the wells, the completion, the wellhead, the pad and all the incremental costs associated with the wells. The wells themselves, my remembrance is the actual drilling if the well is significantly less than that; but, when you load it up with all the incremental costs which are associated with the well, that's probably what that represents. I didn't prepare that, but certainly that's what I would expect it to represent). The Tribunal notes that Mr. Brown was discussing the ConocoPhillips October 2006 Presentation that was made soon after the 2006 Business Plan. *See* Figuera, WS I, **RWS-2, App. 151**, p.6 (ConocoPhillips October 2006 Presentation).

[1289] February 2017 ICSID Hearing Transcript, **R-280,** p.1959-1961.

[1290] Brailovsky/Flores ICSID Consolidated Report, §§ 216-217.

turnaround costs.[1291] The Respondents' point out that Mr. Earnest himself confirmed that he found the Claimants' projections of future turnaround costs to be low.[1292]

866. As to the Claimants' attempt to compare the costs of pre-nationalization turnarounds with post-nationalization turnarounds and those projected for future turnarounds, the Respondents submit that the comparison is inapposite for various reasons. First, they submit that Mr. Earnest's figures ignore the effect of Venezuela's macroeconomic factors, namely the high inflation experienced in the post-Expropriation period, which would have the effect of increasing costs.[1293]

867. Second, they submit that the scope of the pre-Expropriation turnarounds was much more limited, inasmuch as they were only partial turnarounds or "Pit Stop" turnarounds and thus rather obviously cost less than the full-scale turnarounds that took place in 2009 and 2012. According to the Respondents, it stands to reason that "more extensive turnarounds would be more expensive".[1294] They buttress their argument by emphasizing that it was Chevron – a private commercial and international oil company like the Claimants – that was in charge of managing the turnarounds.[1295]

868. Third, the Respondents rely on a study which reported that turnaround costs averaged a 15% increase each year from 2000-2008[1296] and the Project partners' expectation in 2006 that a full turnaround would cost 5-10 times more, in support of their higher post-Expropriation turnaround costs.

(6) Electricity generation and firefighting equipment costs

869. As regards costs incurred for the installation of firefighting equipment, the Respondents submit that additional firefighting equipment has been installed at the Petrozuata Project and that through 2014, approx. USD 10 million has been spent on

[1291] R-PHB, § 777.

[1292] Tr. (Day 8), 2271:1-6 (Mr. Earnest).

[1293] R-PHB, §§ 778-779.

[1294] R-PHB, §§ 780-781; Figuera, WS 1, **RWS-2, Annex D**, §§ 59, 97, fn 135, 210; Figuera, WS 1, **RWS-2, App. 82**; Figuera, WS 1, **RWS-2, App. 46**; Figuera, WS 1, **RWS-2, App. 100**; Figuera, WS 1, **RWS-2, App. 114.**

[1295] Figuera, WS 1, **RWS-2, Annex D**, fn 135. It appears that the technical and operations manager who is in charge of managing turnarounds was a Chevron appointee.

[1296] Figuera, WS 1, **RWS-2, App. 124** (Solomon Associates Presentation).

the same. The Respondents also submit that these costs have been sufficiently substantiated.[1297]

870. As regards the costs incurred for increasing electricity generation capacity at both Projects, the Respondents submit that pursuant to a 2009 decree, PDVSA and its affiliates received directions to reduce reliance on hydroelectric power due to a nation-wide power shortage.[1298] Pursuant to the aforesaid Decree, the Hamaca Project allegedly installed 40 megawatts of power generating capacity at a cost of USD 95 million. The Respondents submit that this cost has been duly substantiated and should be included in the *ex post* cost estimates.[1299]

871. In response to the Claimants' allegation that this cost is inflated, the Respondents submit that the allegation is baseless as the "costs for the electricity generating equipment were fully documented and approved by the PetroPiar Financing Department, which was headed by a Chevron appointee".[1300]

ii. <u>The Claimants' position</u>

872. The Claimants reiterate their reliance on only the 2006 pre-Expropriation business planning documents as their basis to determine the expected Project costs for the full duration of the Projects' terms.[1301] In support, the Claimants reiterate the same arguments they had made in connection with production volumes.[1302]

873. Turning to Brailovsky and Flores' costs projections, the Claimants note that the additional post-Expropriation costs sought to be included in the Respondents' valuation add a "staggering US$9.1 billion of additional costs items over the remaining 30 years of the Petrozuata and Hamaca Projects' terms" which "amount[s] to a doubling of the expected per-barrel operating expenses, and a quadrupling of the capital expenses", vastly exceeding the projections made by Mr. Abdala.[1303]

[1297] Figuera, WS 1, **RWS-2, App. 148 (**Contract for Improvements to the Fire-Fighting System at the PetroAnzoategui Upgrader (Phase I) and Invoices); Figuera, WS 1, **RWS-2**, **Annex E**, § 66.

[1298] Figuera, WS 1, **RWS-2**, **App. 69**.

[1299] R-PHB, § 798; February 2017 ICSID Hearing Transcript, **R-280**, pp. 2399-2400; Figuera, WS 1, **RWS-2, App. 140** (Invoices for the purchase of Petropiar's Turbo Generators).

[1300] R-PHB, § 798; February 2017 ICSID Hearing Transcript, **R-280**, pp. 2399-2400

[1301] Abdala ER I, **CER-3**, §§ 72, 78.

[1302] *Supra*, §§ 588-595, 607-612; C-PHB, §§ 802-804.

[1303] C-PHB, §§ 805-806. Compare **CLEX-078** with App. BF 215.

874. First, the Claimants' expert, Mr. Abdala, asserts that the Respondents' cost projection is a contradiction in terms. He points out that if the "additional costs" asserted by the Respondents were to be accepted along with their reduced production volumes, then the post-tax cash flows of both Projects would become negative post-2015 and permanently negative in 2024 (for Petrozuata)[1304] and 2027 (for Hamaca).[1305] According to Mr. Abdala, if the financial performance of the Projects was so poor as to make them commercially unviable, then they should have been shut down. However, the reality is that the Projects continue to operate. In fact, they appear to have generated dividends of around USD 8.8 billion in value to their shareholders between June 2007 and 2014.[1306] In the circumstances, Mr. Abdala concludes that the Respondents' cost projections are facially incredible and ought to be rejected.

875. In the alternative, the Claimants call into question the "additional costs" alleged by the Respondents on three grounds: either that they are (i) unreasonable and/or unnecessary; or (ii) unsupported by evidence; or (iii) ever-changing and therefore unreliable. On this basis, the Claimants ask the Tribunal to conclude that the aforementioned categories of "additional costs" would not have been incurred in the but-for scenario and should therefore be rejected. Accordingly, the Tribunal shall now examine the Claimants' arguments on each cost category indicated above.[1307]

(1) Well repair costs

876. With respect to the costs incurred for well repairs, the Claimants submit that these are entirely unsubstantiated. The Claimants point out that the cost of USD 360,000 per well (in Yr. 2007 USD) for repairs allocated by the Respondents' expert, Mr. Patino, is "based on the testimony by a different claimant in a different arbitration"[1308] and that these costs are unverifiable.[1309]

(2) Solids handling costs

877. According to Mr. Earnest, the approx. USD 250 million costs that the Respondents assert were spent on trucking costs (to collect and transport the solids to such

[1304] Abdala ER II, **CER-8**, Figure 4.

[1305] Abdala ER II, **CER-8**, Figure 5.

[1306] Abdala ER II, **CER-8**, §§ 23-28; Petroanzoategui, 31 December 2014 Financial Statements, Abdala ER II **CLEX-081**, Note 16, pp. 34-37.

[1307] *Supra*, §§ 852.i-852.vi.

[1308] Abdala/Spiller, ICSID Consolidated Report, fn 157.

[1309] Abdala/Spiller, ICSID Consolidated Report, § 152(a).

alternate storage piles between 2009 and 2014) are entirely absurd.[1310] First, the Claimants contend that these costs far exceed the amount required to repair the Solids Handling Terminal and therefore it did not make commercial sense for the Respondents to have incurred such high trucking costs.[1311] Second, Mr. Earnest draws attention to a Government Inspection Report, which found that the contracts with the trucking company used for transporting the solids were illegal.[1312] This inspection report also found that the job of refurbishment of the solids management area at the upgraders (which would have included the Solids Handling Terminal) was awarded to a company with no experience and in fact the work was never completed which contributed to the excess trucking costs incurred over a longer period of time.[1313]

(3) PREM and PRAC costs

878. The Claimants call into question the additional costs of USD 1 billion allocated for the PREM and PRAC maintenance of the Hamaca upgrader on the ground that (i) they were never contemplated in the Ameriven Model; and (ii) the expenditures are entirely unsubstantiated.[1314] In this respect, the Claimants assert that of the 2012-2015 costs actually incurred for the PREM, less than 15% is documented.[1315]

[1310] C-PHB, § 818; Earnest ER, **CER-7**, §§ 102-104.

[1311] The Claimants point to the fact that Mr. Figuera himself states that the cost of repairing the Solids Handling Terminal would have been in the range of USD 37.5 million. However, according to Mr. Figuera, the Project was apparently considering a solution that would use revenues from the possible sales of coke and sulphur to offset the cost of the eliminating the coke pile. Figuera, WS 1, **RWS-2**, § 51, fn. 155.

[1312] **C-358**, pp. 26, 29-30. According to the Respondents, the alleged illegality of this contract pertained to whether the situation justified awarding of the contract without a tender process. The actual value of the contract was not impugned. *See* Figuera, WS 2, **RWS-4,** fn. 50.

[1313] *Id.*

[1314] It appears that after the 2009 turnaround of the Hamaca Project did not improve the OSF, the Board of Directors of the then Hamaca JVC commissioned a comprehensive review of the upgrader by a joint team of experts from PDVSA, Chevron and independent consultants. The team concluded that the upgrader was running at very inefficient OSF. Accordingly, it appears that the then Hamaca JVC prepared two plans: the Restoration Plan for Critical Assets or PRAC and the Restoration Plan for Major Equipment or PREM for improving the performance of the Hamaca upgrader. The PREM was expected to be carried out annually from 2012-2022. The PRAC was carried out in 2012 along with the Hamaca Project's third turnaround and allegedly cost around USD 313.2 million. The first PREM was also carried out in 2012 and cost around USD 44.4 million. Overall, the Respondents' witness Mr. Figuera states that USD 350 million was spent in 2012 on activities to improve the performance of the Hamaca upgrader. Figuera, WS 1, **RWS-2**, § 40.

[1315] C-PHB, § 835; Reply, § 455. The Claimants submit that of the USD 356,850,000 alleged to have been spent on these PREMs, Mr. Figuera has provided invoices for only USD 8.6 million of USD 44.4 million claimed for 2012 (Figuera, WS 1, **RWS-2**, **App 115**), provided invoices for only USD 11.1 million of USD 67.5 million claimed for 2013 (Figuera, WS 1, **RWS-2**, **App 117)**, provided invoices for only USD 23.2 million of USD 113.0 million claimed for 2014 (Figuera, WS 1, **RWS-2**, **App 118, App 166**); and provided invoices for only USD 1.1 million of USD 131.9 million claimed for 2015 (Figuera, WS 1, **RWS-2, App. 167**). The Claimants' 15% calculation is based upon PDVSA's proposed exchange rates; application of alternative exchange rates would mean that an even smaller fraction of this claim is documented.

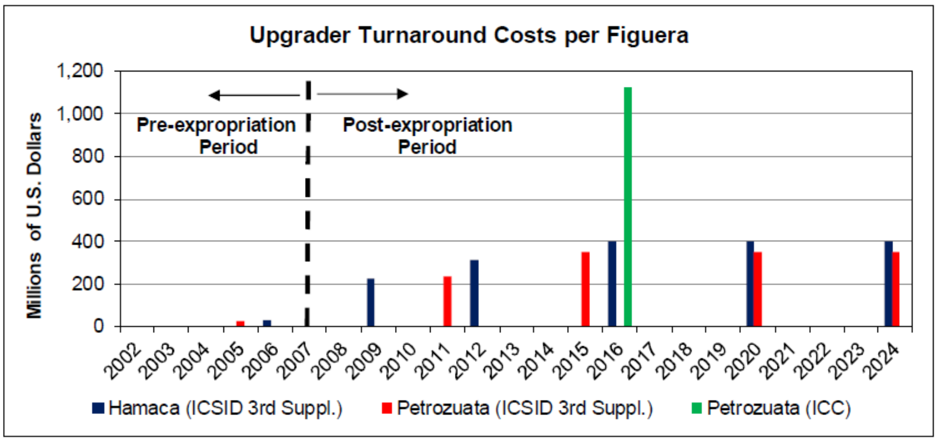
Furthermore, for the 2016-2022 PREM costs, no documentation has been supplied by Mr. Figuera.

(4) Drilling and well pad costs

879. According to the Claimants, the costs for wells and wellpads are entirely unsubstantiated and this should be dispositive of the case in their favour.[1316] With respect to the cost estimated for EOR wells at the Hamaca Project, the Claimants point to the alleged obvious contradiction in the Respondents' case, where on the one hand, the production volumes are estimated on the basis of cold production techniques only. Yet, the costs take into account the more expensive wells that were capable of supporting EOR.

(5) Turnaround costs

880. The Claimants note that the Respondents' experts include "huge alleged past and future costs for "turnarounds" i.e. upgrader maintenance shutdowns occurring approximately every four years", which are not only multiples greater than those envisaged by the Project partners in the pre-Expropriation period,[1317] but also greater than the costs that were actually incurred in the pre-Expropriation period. The Claimants' expert on turnaround costs, Mr. Earnest, illustrates his submission as follows:[1318]



881. The aforesaid figure "shows the turnaround costs at the Petrozuata and Hamaca Upgraders in 2005 and 2006 prior to expropriation, as well as the turnaround costs reported by Mr. Figuera for 2009 and 2012 [and…] the range of costs that Mr. Figuera

[1316] Reply, § 455; C-PHB, fn. 1499.

[1317] Earnest ER, **CER-7**, §§ 79-80.

[1318] Earnest ER, **CER-7**, § 16, Figure 2.

provides in his various statements for a Petrozuata turnaround originally scheduled for 2015, which was then postponed into 2016, as well as Mr. Figuera's estimates for future turnaround costs at both upgraders".[1319] According to Mr. Earnest, when compared with the pre-Expropriation costs, Mr. Figuera's post-Expropriation costs are "commercial nonsense". Moreover, the Claimants assert that the Respondents have produced no reliable evidence to support their proposal of such high turnaround costs.[1320]

882. Finally, in order to expose the incredible nature of the Respondents' projections, Mr. Earnest reflects the turnaround cost as proposed by the Respondents as a percentage of the construction cost of the upgrader. He opines that Mr. Figuera's projections add up to about 20% of the construction cost of the entire facility. In other words, he explains that "if you have a five-room house, what Mr. Figuera would have [the Parties do] is [knock] down one room every four years and [rebuild] it new."[1321]

883. In conclusion, the Claimants draw attention to the fact that despite the massive expenditures on turnaround and maintenance costs, the OSF of the upgraders remained extremely low. Thus, not only were the Projects "money-pits" but also uneconomical. To the Claimants, it makes no sense for the Respondents to expropriate Projects that were in such a state and any arguments to this effect are evidently self-serving.[1322]

(6) Electricity generation and firefighting equipment costs

884. According to the Claimants, the costs for installation of electricity generation and firefighting equipment were not contemplated by the 2006 business planning documents and are not sufficiently substantiated. Accordingly, these costs should not be included in the *ex post* cost estimates.[1323]

iii. <u>The Tribunal's determination</u>

[1319] Earnest ER, **CER-7**, § 16

[1320] C-PHB, §§ 813-814.

[1321] Tr. (Day 8), 2228:19 – 2229:3 (Mr. Earnest); Earnest ER, **CER-7**, §§ 76-79 (He states that "[i]n effect, when the turnaround and annual maintenance cost is combined, Mr. Figuera is claiming that every 4 years about 19 percent of the upgrader must be replaced. Based upon my industry experience, this level of maintenance expenditure greatly exceeds that required by a competent operator executing a well-planned turnaround effort").

[1322] C-PHB, § 815.

[1323] Reply, § 455.

885. Having examined the Parties' submissions on the six categories of disputed additional costs, the Tribunal sets out its determination on each category below.

886. First, with respect to well repair costs for the Petrozuata Project, the Respondents' expert Mr. Patino relies on the well repair costs used in the Mobil ICC and ICSID cases in connection with the Cerro Negro Project. The Tribunal is not persuaded by the Respondents' case and finds that they have failed to sufficiently justify why they are excused from independently demonstrating well repair costs on the basis of the existing wells at the Petrozuata and Hamaca Projects. Given that it is the Respondents' own case to rely on actually incurred costs, they should thus prove such costs. In other words, there is insufficient basis for the Respondents to instead rely (as the Claimants put it) on "the testimony of a different claimant from a different arbitration", which is not in any way connected to the present arbitration. Thus, as far as the well repair costs are concerned, the Tribunal finds that the Respondents have not sufficiently demonstrated the reliability of their costs estimates.

887. Second, as regards the costs incurred for solids handling and for trucking, the crux of the Claimants' objection to these costs is that they are far in excess of the costs required to repair the damage caused to the Solids Handling Facility, and thus no prudent operator would have incurred such high costs for trucking as an alternative. The Respondents' only response to this contention is that the trucking costs were allegedly necessary, have been incurred for five years between 2009 and 2014, and must therefore be accounted for. They submit that despite repairs being carried out, the Solids Handling Facility was not operating at optimal levels. Therefore, it was necessary to continue storing solid by-products at the alternate location and incurring the respective trucking costs.

888. The Tribunal is not convinced by the Respondents' arguments. According to the Respondents themselves, the cost that would be incurred in repairing the Solids Handling Facility is approximately USD 37.5 million. In comparison, the amount that was incurred by the Respondents in trucking costs between 2009 and 2014 is approx. USD 250 million.[1324] The sheer disparity between these two figures calls into question the reliability of these costs. If, as the Respondents admit, repairs did not solve the damage caused to the Solids Handling Facility, given the arguably lower cost of such repairs, it would have been less expensive to undertake further repairs than to incur exorbitant trucking costs. In light of the disparity, for the trucking costs to be justified

[1324] The Tribunal notes that these costs have in fact been supplied by the Respondents themselves. *See* Figuera, WS 1, **RWS-2**, **Annex E**, § 60.

as necessary, the Respondents ought to have demonstrated that incurring additional costs to repair the Solids Handling Facility would have been more expensive and therefore commercially non-viable *vis-à-vis* incurring additional trucking costs. Instead, the Respondents merely state that despite repairs, the Solids Handling Facility continued to have problems and therefore the trucking costs had to be incurred. As the Claimants correctly point out, that in itself is no justification for incurring trucking costs which are almost five times greater than the cost of repairs, and that too, for a period of five years between 2009 and 2014.[1325] In light of the above, the Tribunal need not examine the Claimants' other argument that the trucking contract was allegedly illegal and/or that the consideration payable under the contract was allegedly inflated.

889. In the circumstances, regardless of the fact that such costs may have been actually incurred, the Tribunal finds that they were attributable to the Respondents' business decisions. As the Claimants correctly point out, no prudent operator would have allowed such costs to be incurred for an extended duration. Accordingly, the Tribunal cannot accept these costs.

890. The third category of costs that is disputed is the costs incurred towards PREM and PRAC for improvement and maintenance of the Hamaca upgrader. The Claimants call into question these costs on the ground that less than 15% have been properly substantiated. In particular, the Claimants' expert found that of the USD 356,850,000 alleged to have been spent on these PREMs, Mr. Figuera has provided invoices for only the following amounts:

i. USD 8.6 million of USD 44.4 million claimed for 2012;

ii. USD 11.1 million of USD 67.5 million claimed for 2013;

iii. USD 23.2 million of USD 113.0 million claimed for 2014;

iv. USD 1.1 million of USD 131.9 million claimed for 2015.

891. The Respondents do not deny that they have only provided partial invoices, however these invoices are numerous. The Respondents' counterargument is that, in demonstrating costs, every penny needs not be accounted for. While the principle relied on by the Respondents is practical, in the facts of the present case, the Tribunal finds that the disparity between the amounts claimed to have been expended

[1325] C-PHB, §§ 818-820

by the Respondents, and the portion of costs in respect of which they have provided actual substantiation, is too great. The Tribunal is of the view that this disparity is sufficient to call into question the reliability of the Respondents' costs figures.

892. The above is buttressed by Mr. Figuera's admissions during the Hearing. When questioned about turnaround costs and the documents he had provided to substantiate the same, Mr. Figuera stated as follows:

> Q. Now, your position is that, since the Expropriation, Project costs have increased dramatically; is that right?
>
> A. Yes, of course.
>
> Q. And you asserted that there have been a number of new or increased cost items that the Project participants didn't anticipate prior to the Expropriation; right?
>
> A. That's right.
>
> Q. Now, with your various Witness Statements, you provided a few large files of cost documents, including copies of contracts and some invoices. Do you remember that?
>
> A. Amazing numbers, yes. Significant numbers.
>
> **Q. Did you compile those documents yourself?**
>
> **A. No.**
>
> **Q. The documents are not indexed in any way. Do you recall that?**
>
> **A. No, I don't.**
>
> **Q. PdVSA did not have them reviewed or audited for the purposes of this case by any accountant or other expert, to your knowledge, did it?**
>
> **A. Not to my knowledge.**[1326]

893. It transpires from the above testimony that Mr. Figuera merely provided an "amazing number" of documents to purportedly support the Respondents' costs claim for PREM and PRAC, but that these documents have not been verified in any manner. In the circumstances, the Tribunal is unable to accept the Respondents proposed upgrader maintenance costs.

894. For the sake of completeness, the Tribunal notes that the aforesaid costs are comprised of the additional OPEX claimed by the Respondents and disputed by the

[1326] Tr. (Day 5), 1256:16-1257:12 (Mr. Figuera)

Claimants. For the purposes of reflecting the above decision in the AUVM, the toggles in the Costs Panel of the AUVM for OPEX shall be set to "Abdala".[1327]

895. The next three categories of costs are the additional CAPEX costs that are disputed by the Claimants.

896. The first of such CAPEX is costs incurred towards drilling additional wells at the Petrozuata and Hamaca Projects. With respect to the additional cost of USD 3.5 million per well in light of the testimony given by the Claimants' witness, Mr. Brown,[1328] the Tribunal finds that the Parties are in agreement as to the cost of drilling dual lateral wells. Therefore, with respect to such wells, the Tribunal finds that additional costs of USD 3.5 million per new well can be included in the post-Expropriation costs estimates.

897. What remains in dispute is the cost of drilling single lateral wells for cold production as well as whether to account for the cost of wells fitted for EOR. With respect to the costs of drilling single lateral wells for cold production, the Tribunal finds that the figure of USD 2.9 million per single lateral well has been proposed by the Respondents on the basis of Mr. Figuera's testimony,[1329] who in turn makes a good faith estimate of the same. As the Claimants correctly point out, the Respondents have not produced any documents to explain how Mr. Figuera arrives at such good faith estimate. Accordingly, the Tribunal is unconvinced that the Respondents have sufficiently established the cost of drilling single lateral wells.

898. Turning to the wells that were fitted for EOR, the Tribunal acknowledges that the Respondents have only included the cost of drilling wells that are EOR compatible and not the cost of actually implementing EOR techniques at these wells. However, in application of the but-for test, the Tribunal must examine what costs would have been incurred had the Claimants remained with the Projects. The Tribunal has previously concluded that the Claimants were never contemplating implementing EOR techniques at the Projects.[1330] Therefore, in the but-for scenario it is unlikely that the Claimants would have signed off on the additional costs necessary to drill EOR compatible wells (as opposed to cold production compatible wells), especially when they would have gained no benefit from the same. Any reasonable and commercially

[1327] C-PHB, Annex F, § 29(a)(i) – 29(a)(ii).

[1328] Supra, fn 1288.

[1329] Brailovsky & Flores ER I, **RER-3**, §§ 185, 197; Figuera, WS 1, **RWS-2**, **Annex B**, §§ 34-35.

[1330] *Supra*, § 717.

prudent entity would have ensured that such costs would have been borne by the entity who would end up benefitting from the eventual EOR implementation. Accordingly, the Tribunal finds that the cost incurred for drilling EOR compatible wells cannot be included in an *ex post* valuation.

899. The <u>second</u> CAPEX relates to turnaround costs for the Petrozuata and Hamaca upgraders. In this respect, the Respondents rely on actual costs expended on the turnarounds whereas the Claimants rely on the turnaround costs projected in the 2006 business planning documents. Having examined the Parties' positions and the evidence on record, the Tribunal is unable to accept the Respondents' position.

900. First, in support of their turnaround cost estimates, the Respondents rely on a study conducted by Solomon Associates (a firm that purportedly conducts benchmarking studies in the refinery industry including studies concerning turnaround costs) which predicted that the cost of turnarounds averaged a 15% increase each year from 2000-2008.[1331] Having examined the document on record, the Tribunal finds that it does not support the Respondents' case in any manner. First, this document appears to be a pamphlet or brochure and is merely two pages long. Second, the document is taken out of context. There is nothing in the document to indicate how the above conclusions regarding the increase in turnaround costs has been arrived at, much less whether the same consideration will apply to EHCO projects in Venezuela. In the circumstances, this does not in any way support the Respondents' case.

901. Second, apart from the above study, the Respondents also appear to be arguing that their turnaround cost estimates are reliable and justified in light of the fact that these turnarounds were managed by the foreign partners in the Project, i.e. in the case of the Hamaca Project, the turnarounds were managed by Chevron.[1332] However, the Tribunal is of the view that the participation of an international oil company in and of itself does not justify or support the extent of the costs incurred on turnarounds and those estimated for additional turnarounds. The Respondents cannot fall back on the presence and/or participation of Chevron to substantiate their costs. In the circumstances, the Tribunal finds that the Respondents' turnaround cost estimates are untenable. Accordingly, the Tribunal shall adopt the turnaround costs estimated by the Claimants.

[1331] Figuera, WS 1, **RWS-2**, **App. 124**.

[1332] R-PHB, § 780.

902. The Tribunal notes that while the Claimants' turnaround cost estimates do raise certain questions,[1333] on the whole they are more reliable than those proposed by the Respondents. Additionally, it is also worth noting that the turnaround costs are a significant portion of the Project's CAPEX and, as the Claimants' have pointed out, accepting the high costs proposed by the Respondents results in a situation where the Projects would become economically unviable.[1334]

903. The third and final CAPEX comprises costs incurred for installation of electricity generating capacity at both Projects and for installation of fire-fighting equipment.

904. With respect to the costs incurred for the installation of electricity generating capacity, the Tribunal finds that the inclusion of such costs is justified. As the Respondents point out, the installation of such electricity generation capacity was mandated by law. In that regard, the relevant provisions of the Decree state as follows:

> **BOLIVARIAN REPUBLIC OF VENEZUELA. MINISTRY OF THE POPULAR POWER FOR ELECTRICAL ENERGY NO. 002. CARACAS, NOVEMBER 2, 2009**
>
> […]
>
> **CONSIDERING**
>
> That demand for energy is rapidly increasing, which makes it necessary to adopt policies that promote the efficient use of energy and guarantee energy sustainability for future generations of Venezuelans and protect the environment;
>
> **RESOLVES**:
>
> **Article 1**. The Corporación Eléctrica Nacional, S.A. (CORPOELEC), its affiliates, **Petróleos de Venezuela, S.A. (PDVSA), its affiliates, and any other State Company with thermoelectric generation capacity should immediately proceed to carry out all necessary actions to maximize the use of all of such generation, including the installation of new rapid-response generation equipment units**, recovery of unavailable units and all those that are feasible to be put into operation within a period of no more than six (6) months […][1335]

905. The reason for passing the above Decree was the rapidly increasing demand for energy in Venezuela and not conditions which were attributable solely to the Respondents. Accordingly, the effects of such a Decree would have applied even in the but-for world to PDVSA and thus the Projects in which it was a participant.

[1333] In this respect, the Tribunal notes that the Claimants' expert Mr. Earnest did consider these estimates to be "somewhat low". Tr. (Day 8), 2270:20-2271:10 (Mr. Earnest)

[1334] *Infra*, § IV.H.5.

[1335] Figuera, WS 1, **RWS 2**, **App. 69**, p. 372.731

906. In addition to the above, the Tribunal finds that the Respondents have produced the invoices necessary to substantiate the costs that are being claimed for such installation.[1336] Thus, the Respondents have established that such costs were incurred and were necessary. By contrast, the Tribunal finds that the Claimants' only defense appears to be that the costs are unsubstantiated, which is clearly not the case. In the circumstances, the Tribunal finds that the costs incurred for the installation of electricity generation must be included.

907. With respect to costs incurred for the installation of firefighting equipment, the Tribunal finds that the Respondents have sufficiently substantiated the incurrence of such costs through the testimony of their witness as well as the invoices provided. The Respondents have demonstrated that the initial proposal to implement fire-fighting equipment estimated the costs to be approx. USD 100 million.[1337] Of this estimated expenditure, the Respondents have substantiated the incurrence of USD 10 million through invoices.[1338] As regards the remaining sum, the Tribunal is satisfied with Mr. Figuera's explanation that these amounts are being deferred to future years. In this regard, the Claimants have sought to call into question these costs on two grounds: first, that they were not included in the original costs projections. However, this is no basis to disregard a cost that had to be incurred. Second, they argue that if a reasonable and favourable exchange rate were applied, the overall costs of the firefighting equipment would reduce to USD 10 million. However, the Claimants' second ground of challenge is defeated by the numbers. In that, the proposed USD costs component of the firefighting equipment was projected at USD 25 million. This component was not subject to any exchange rate and would not have reduced to USD 10 million as the Claimants contend. In the circumstances, the Tribunal finds that the costs incurred towards firefighting equipment should be granted in the Respondents' favour.

908. Thus, for the purposes of reflecting the above decision on CAPEX in the AUVM, the toggles for "Drilling and Wellpads" and "Turnaround costs" should be set to Abdala, and the toggle for "Others" should be set to Brailovsky and Flores.

[1336] Figuera, WS 1, **RWS 2**, **App. 140.**

[1337] Figuera, WS I, **RWS-2, App. 83 (**PDVSA, Investment Proposals Summary Sheet, Improvements in the Firefighting System of the Petroanzoátegui Upgrader, July 2014). The costs for the firefighting project were estimated in mid-2014 to consist of USD 25 million (in actual U.S. dollars) and 472.5 million Bolivars which, at the official exchange rate of Bs. 6.3 per USD, was equal to USD 75 million.

[1338] Figuera, WS I, **RWS-2, App. 148 (**Contract No. 1B-112-037-D-12-S-0023 between PDVSA Petróleo, S.A. and ICM Proyectos 2001, C.A., Improvements to the Fire-Fighting System at the PetroAnzoátegui Upgrader (Phase I), dated June 19, 2012, and Invoices).

909. Apart from the fact that the Claimants have successfully called into question the Respondents' cost projections, the Tribunal is also persuaded by the Claimants' argument that if the Respondents' costs projections were to be accepted, the Projects would become permanently loss making. It stands to reason that neither of the Project Participants would be agreeable to such an eventuality in the but-for world. In the circumstances, the Tribunal finds that its decision to adopt the Claimants' cost estimates is also reinforced by these considerations.

b. *What is the appropriate inflation and exchange rate?*

910. The Tribunal understands that the costs projections in the 2006 business models are reflected in real terms, i.e. they are not adjusted for inflation and the applicable exchange rates between the Venezuelan Bolivar and the USD. Therefore, both Parties' experts adjust these values to account for inflation and exchange rates. They differ however on the methodology followed to account for the effect of the macroeconomic factors, as well as regarding which inflation and exchange rate should be applied.

i. The Claimants' position

(1) The Claimants' position on inflation and exchange rates

911. Mr. Abdala converts the real USD costs projections to nominal USD terms using an escalation index composed of: (a) a specific U.S. Producer Price Index ("US PPI") measuring inflation in the Energy & Petroleum ("E&P") industry between year 2006 and the date of valuation; and (b) anticipated E&P inflation, which he estimates by using an index composed of expected US general inflation (weighted 85%) and expected crude oil price variation (weighted 15%) from the date of valuation.[1339]

912. Turning to the Respondents' criticism of his methodology – namely, that Mr. Abdala has ignored the significant increase in domestic inflation as experienced in Venezuela since 2007 – Mr. Abdala states that this criticism is wrong as his methodology reflects inflation as experienced in the industry from 2007-2015, as measured by the US PPI for oil industry commodities.[1340] Importantly, as elaborated upon below, he does acknowledge that the inflation index used by the Respondents' experts to inflate the USD-denominated costs is equally reputable.

[1339] Abdala ER I, **CER-3,** Annex E §§ 223-224

[1340] Abdala ER II, **CER-8**, § 68.

(2) The Claimants' position on the Respondents' inflation and exchange rates

913. As regards the Respondents' calculation of inflation and exchange rates, Mr. Abdala states that "Brailovsky and Flores overstate […] costs by using an [inappropriate] exchange rate (to convert Bolivar-denominated costs into US dollars) that does not reflect how a private manager would have operated the Projects [and that] [t]his has the effect of reducing damages by US$ 1.4 billion under the Discriminatory Provisions Scenario".[1341]

914. With respect to the historical period, the Claimants submit that the Respondents' experts' critical mistake is that they convert Bolivar denominated costs to USD by using the *lowest official exchange rate*, i.e. the CADIVI/CENCOEX, thereby "greatly exaggerating" their cost estimates (when converted to USD).

915. According to the Claimants and Mr. Abdala, there were multiple foreign exchange rates prevailing in Venezuela at the relevant time and a rational commercially-driven entity managing the Projects, such as the Claimants, would take steps to avoid the inflated costs assumed by the Respondents' experts in their calculation either by accessing the more favourable exchange rate or by minimizing exposure to Venezuela's high domestic inflation.[1342]

916. In particular, Mr. Abdala suggests that a "reasonable private manager" of the Projects would have taken the following steps to get past the effects of high inflation:

   i. Financed the operations through intercompany loans, which would allow access to more favorable, legal exchange rates.[1343] In particular, the Projects could have accessed the higher SICAD I and SICAD II rates through intercompany loans which would not involve the exchange of funds received from the sale of hydrocarbons.[1344]

[1341] Abdala ER II, **CER-8,** § 66.b, Table 9. To this Mr. Abdala adds that if he were to accept the Respondents' methodology and segregate costs in Bolivars and USD, but instead apply the best available exchange rate, the resulting costs would be lower than what he has currently forecast.

[1342] Tr. (Day 10), 2596:23-2598:22 (Dr. Abdala); Abdala ER II, **CER-8**, § 79.

[1343] ICSID Consolidated Abdala Report, § 157(a);

[1344] For intercompany loans, the Claimants cite Article 1 of Exchange Agreement No. 24 of 30 December 2013 (Abdala ER II, **CER-8 CLEX-096**) and Article 5 of Exchange Agreement No. 28 of 3 April 2014, Article 5 (Abdala ER II, **CER-8 CLEX-097**).

ii. Obtained Bolivar-denominated loans to service the Bolivar-denominated costs, and paid back the principal with USD once the exchange rate normalised.[1345]

iii. Hired or outsourced certain functions to international suppliers and contractors (including professional services firms, such as engineers, managers, and other specialized labour), and paid them in USD (perhaps outside Venezuela), thereby avoiding the exchange rate issue altogether. According to the Claimants, there is no legal prohibition against paying one's own employees in USD and the relevant Exchange Agreement No.9 only prevents PDVSA from paying its employees in the hydrocarbons industry in USD. No such limitation applies to the Associations or even to mixed companies.[1346]

917. The Claimants further submit that the Respondents suggestion that only PDVSA and *empresas mixtas* could avail of the favourable exchange rate is misplaced because the Exchange Agreements treated *empresas mixtas* and Associations as the same for the purposes of applicable exchange rate regime both before and after the Expropriation.[1347]

918. With respect to the projection period, the Claimants submit that the Respondents' experts provide no basis for applying the DICOM and DIPRO rate on a 50-50 split basis. According to the Claimants, the only reason for the Respondents' suggestion is to bring about a further reduction in the Claimants' damages.[1348] Summing up the argument, Mr. Abdala submits that "the difference in total costs put forward by the parties' respective experts is driven primarily by the selection of the appropriate exchange rate […] [and] when more favorable, legal exchange rates are applied to Brailovsky & Flores's [sic] own cost projections, their costs model substantially coalesces as with Dr. Abdala's".[1349]

ii. *<u>The Respondents' position</u>*

(1) The Respondents position on inflation and exchange rates

[1345] C-PHB, § 824(b).

[1346] Exchange Agreement No. 9, 15 September 2005, Abdala ER II, **CLEX-098,** Articles 1-5; C-PHB, fn 1468; C-PHB, § 824(d).

[1347] C-PHB, § 827; Brailovsky/Flores ICSID Consolidated Report, §§ 169, 173; Exchange Agreement No. 9 of 21 November 2005 (Abdala ER I, **CER-3 CLEX-098)** and Exchange Agreement No.9 of 11 August 2009, Brailovsky/Flores ICSID Consolidated Report**, App. BF-233**.

[1348] C-PHB, § 828.

[1349] C-PHB, §§ 830-832.

919. Mr. Brailovsky and Mr. Flores emphasize that a significant share of the Projects costs were incurred in Bolivars.[1350] Accordingly, they contend that different inflation indices should be applied to the costs incurred in Bolivars and to those incurred in USD. For costs incurred in Bolivars they use actual and projected inflation in Venezuela to convert real costs to nominal costs and thereafter apply actual and projected exchange rates between the Bolivar and USD to convert these nominal costs from Bolivars into USD.[1351] As regards costs incurred in USD, they use a combination of oil industry and CAPEX and OPEX specific international inflation indices to determine the nominal value of costs incurred in USD.[1352]

920. They apply the following inflation and exchange rates to adjust the costs incurred in Bolivars:

i. From <u>2006 to 2015,</u> they apply actual inflation in Venezuela as published by the Central Bank of Venezuela, i.e the Consumer Price Index of the Metropolitan Area of Caracas ("CPIC");[1353] The Respondents' experts then convert these costs in Bolivars to USD by applying actual exchange rates between the Bolivar and the USD through 2015, as published by the Central Bank of Venezuela.[1354]

ii. For <u>2016</u>, they use the IMF's October 2016 forecast of Venezuelan inflation;[1355] As regards the exchange rate, from <u>January 1, 2016 to March 9, 2016</u>, they apply the CADIVI/CENCOEX exchange rate of Bs. 6.3 per USD to convert Bolivars to USD. From <u>March 10, 2016 and through the end of 2016</u>, they assume that the Projects would have access to the DICOM exchange

[1350] According to Mr. Figuera, approx. 70% of OPEX and CAPEX were incurred in Bolivars and 30% in USD. Figuera, WS I, **RWS-2**, **Annex D**, §§ 58-59.

[1351] Brailovsky & Flores ER I, **RER-3**, §§ 161.

[1352] Brailovsky/Flores ICSID Consolidated Report, §§ 301-302, fn 626.

[1353] Banco Central de Venezuela, *Consumer Price Index, Caracas Metropolitan Area, Series since 1950, Base December 2007=100 (Updated as of March 7, 2016),* Brailovsky/Flores ICSID Consolidated Report, **App. BF−345.** Dr. Abdala objects to the use of this inflation index on the ground that it is a "consumer-level index and the Respondents' experts have not taken into account whether this is reflective of the cost-structure of the Projects. According to the Respondents' experts, this inflation index is the only one that covers the entire period from 2006 to 2015 without any discontinuities and is therefore reliable. Brailovsky/Flores ICSID Consolidated Report, fn. 627. The calculations are at *Ex Post* Inflation Factors and Other Calculations as of December 31, 2016, Brailovsky/Flores ICSID Consolidated Report**, App. BF-407**, Tables 1, 6.

[1354] Banco Central de Venezuela, *Reference Exchange Rates, Transactions in Foreign Currencies*, February 2015 – September 2016, Brailovsky/Flores ICSID Consolidated Report**, App. BF-413**.

[1355] International Monetary Fund, World Economic Outlook Database, Report for Venezuela: *Gross Domestic Product, Current Prices (National Currency), Gross Domestic Product, Current Prices (U.S. Dollars)* and *Inflation, Average Consumer Prices (Percent Change)*, October 2016, Brailovsky/Flores ICSID Consolidated Report, **App. BF−416**.

rate for 50% of their exchanges and access to the DIPRO exchange rate for the remaining 50% of their exchanges.[1356]

iii. From 2007 to 2021, the IMF's October 2016 forecast of inflation in Venezuela as well as of exchange rates to convert costs from Bolivars into USD.

921. As regards the costs incurred in USD:

i. From 2006 to 2016, Mr. Brailovsky and Mr. Flores adjust OPEX and CAPEX incurred in USD based on the IHS CERA Upstream Operating Cost Index ("UOCI").[1357]

ii. From 2007 to 2021, they use a "composite inflation index calculated as the weighted average of: (i) expected annual changes in Brent prices, with a 15% weight, and (ii) long-term inflation expectations of 2% per year, with an 85% weight."[1358]

922. With respect to costs incurred from 2022 onwards:

> [I]n order to simplify the calculations and account for the currency fluctuations and differences in inflation rates, [they] assume that purchasing power parity – the economic principle that higher inflation rates in one country will be offset by corrections in the exchange rate – will hold. Therefore, from 2022 forward [they] convert all OPEX and CAPEX incurred in bolivars into U.S. dollars, based on the IMF's projected exchange rate in 2021; [they] then apply the composite inflation index [to all costs] to inflate values to future years.[1359]

(2) The Respondents' position on the Claimants' inflation and exchange rates

923. Turning to Mr. Abdala's valuation of inflation and exchange rates, the Respondents' experts disagree with Mr. Abdala on two counts:

924. First, they submit that Mr. Abdala incorrectly disregards the fact that a significant share of costs were incurred in Bolivars and not in USD and that as a consequence, he also ignores the effect of actual inflation in Venezuela and exchange rates for the historical period. According to the Respondents, this is fundamental error (2.1).

1356 Banco Central de Venezuela, *Updated Reference Exchange Rates*, 1996 – September 2016, Brailovsky/Flores, ICSID Consolidated Report**, App. BF-414**.

1357 IHS CERA, *Upstream Operating Costs Index (UOCI), 2000=100*, Q2 2016, Brailovsky/Flores ICSID Consolidated Report **App. BF-449**; IHS CERA, *Upstream Capital Costs Index (UCCI), 2000=100*, Q1 2016, Brailovsky/Flores ICSID Consolidated Report **App. BF-450**; *Ex Post* Inflation Factors and Other Calculations as of December 31, 2016, Brailovsky/Flores ICSID Consolidated Report **App. BF-407**, Table 3.

1358 Brailovsky/Flores ICSID Consolidated Report, § 304(c).

1359 Brailovsky/Flores ICSID Consolidated Report, § 305; *Ex Post* Inflation Factors and Other Calculations as of December 31, 2016, Brailovsky/Flores ICSID Consolidated Report **App. BF-407**, Table 1.

925. Second, they disagree with Mr. Abdala's use of the US PPI as the inflation index (2.2).

2.1. Mr. Abdala disregards actual inflation in Venezuela in the historical period

926. The Respondents' experts explain that Mr. Abdala disregards the currency specific projections in the 2006 Models and instead adopts the following incorrect two-step calculation: first, he converts the costs projected in Bolivars into USD using the official exchange rate in 2006 which was Bs. 2.15 per 1 USD;[1360] and second, he then inflates these costs – now stated in Yr. 2006 USD terms – using a US inflation index. According to the Respondents' experts, the flaw in this approach is that "Mr. Abdala implicitly assumes that from 2006 forward, costs incurred in [B]olivars would have increased at the same inflation rate as costs incurred in [USD]", when the reality is that between 2007 and 2015, Venezuela has experienced high inflation and such inflation has not been offset by timely devaluations of the Bolivar vis-à-vis the USD.[1361]

927. In terms of a concrete example, the Respondents' above criticism can be illustrated as follows:

> Consider a Bs. 100 cost incurred in 2014 in Venezuela expressed in 2006 bolivars. [Mr. Abdala] would first convert this cost into U.S. dollars at the official exchange rate as of 2006, Bs. 2.15 per US$, obtaining US$47. [He] would then inflate this amount through 2014 using U.S. inflation, obtaining US$60. In contrast, using actual inflation in Venezuela and exchange rates […] the Bs. 100 cost is first inflated using actual inflation in Venezuela through 2015, obtaining Bs. 2,251; this amount is then converted into U.S. dollars at the official exchange rate as of 2015, Bs. 6.3 per US$, obtaining US$357. By properly accounting for actual inflation in Venezuela and official exchange rates, the Bs. 100 cost inflated to 2015 is six times higher than the cost estimated using [Mr. Abdala's] incorrect [methodology].[1362]

928. The Respondents submit that as a result of Mr. Abdala's "egregious error" the costs are grossly understated, when the reality is that costs incurred in Bolivars have ended up being much higher, in USD terms, than originally expected in 2006. More to the

[1360] Brailovsky & Flores ER I, **RER-3**, §§ 46-47; Petrozuata Breach Scenario Model, tab "OPEX" under "Inputs based on: COP Composite Economic Model", Abdala ER I, **CER−3 CLEX−002**.

[1361] Brailovsky & Flores ER I, **RER-3**, §§ 46-47; The Respondents experts also provide the following example: assume that costs incurred in bolivars in year 1 are Bs. 215. With the exchange rate equal to Bs. 2.15 per US$, those costs translate to US$ 100. Between year 1 and year 2, inflation in Venezuela is 100%, so the costs incurred in bolivars become Bs. 430 in year 2. If there is no devaluation of the bolivar with respect to the U.S. dollar in year 2, then those costs in year 2 translate to US$ 200. That is, costs incurred in bolivars also double from a U.S. dollar perspective. Inflation in the bolivar would only be irrelevant from a U.S. dollar perspective if the bolivar had been regularly devalued in a way that would offset the high inflation in Venezuela. That was not the case from June 26, 2007 through the Valuation Date.

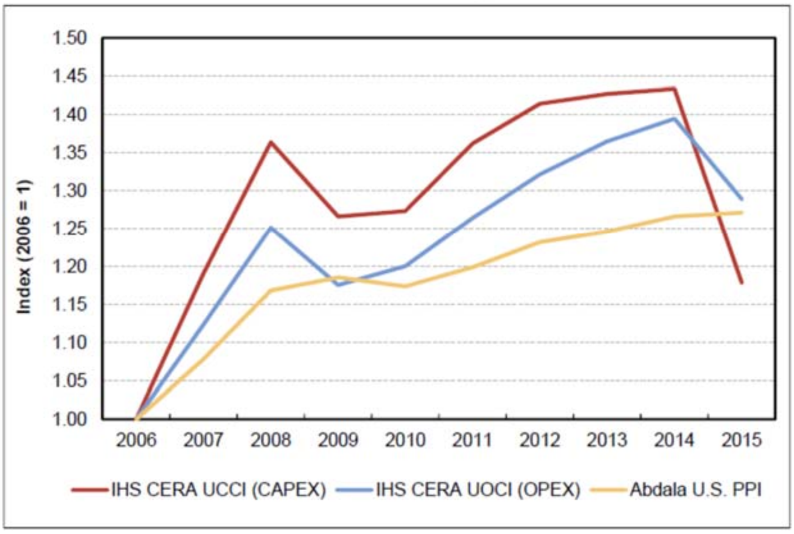
[1362] Brailovsky & Flores ER I, **RER-3**, § 50.

point, they point out that "these cost increases have nothing to do with any perceived inefficiencies by PDVSA, but are simply the result of inflationary forces and exchange rate policies".[1363]

2.2. Mr. Abdala's reliance on the US PPI to measure inflation is incorrect.

929. The second ground of disagreement is Mr. Abdala's use of the US PPI for "Oilfield and gas field machinery" as the appropriate inflation index. According to the Respondents' experts, this index measures the change in prices of machinery in USA and while it may be used as a proxy for inflation in CAPEX when a better index does not exist, this is not the case at present. That apart, the US PPI index is in any event far from ideal to measure inflation in OPEX. The "obvious anomaly" resulting from using the US PPI is illustrated by the Respondents as follows:[1364]

Figure 9
U.S. Inflation Indices Comparison[305]



930. Next, the Respondents address the Claimants' argument that the high inflation in Venezuela and the lack of devaluations of the Bolivar would not have affected the Projects because any "reasonable Project manager" would have sought to circumvent the effects of these macroeconomic factors by (i) taking advantage of more favourable exchange rates; (ii) reducing the exposure to high domestic inflation; or (iii) minimizing the use of local inputs thereby minimizing costs incurred in local

[1363] Brailovsky/Flores ICSID Consolidated Report, § 162.

[1364] Brailovsky & Flores ER I, **RER-3**, Figure 9.

currency.[1365] The Respondents experts reject Mr. Abdala's arguments on the following grounds:

931. First, that the favourable exchange rates to which Mr. Abdala refers were not applicable to USD generated from the sale of hydrocarbons until the issuance of Exchange Agreement No. 35 on 9 March 2016[1366] which introduced the DIPRO/DICOM system.[1367] For that matter, according to the Respondents' experts none of the exchange agreements providing for more favourable exchange rates was applicable to the associations and permitted USD obtained from the sale of hydrocarbons to be exchanged at such rates.

932. Second, to the extent such favourable rates were applicable to USD generated from other activities, only PDVSA and its subsidiaries and *empresas mixtas* operating under the 2001 Hydrocarbons Law could avail of the benefit.[1368] Given that in the but-for world, the Projects would have continued as associations under the 1975 Nationalization Law, the benefits of a favourable exchange rate cannot be assumed by the Claimants.[1369] The Respondents point out that Mr. Abdala does not address these points.

933. Third, as a matter of fact, even PDVSA, its subsidiaries or *empresas mixtas* have not been granted unlimited access to benefit from favourable exchange rates. They can only do so subject to "Government evaluation of need for and availability of U.S. dollars for the DIPRO mechanism". Their ability to exchange more bolivars for selling USD is subject to considerations of national economic policy, which would have been no different in the but-for scenario. Hence, according to the Respondents, "[i]t is unreasonable and unrealistic for Dr. Abdala to assume that the Projects [...] would be given special favorable treatment in the form of unlimited access to whatever number of bolivars they wanted at the more favorable rates."[1370]

934. Last, Mr. Abdala's argument that a "reasonable manager would access the various alternative official exchange rates, finance the Project's operations through

[1365] Brailovsky & Flores ER II, **RER-7**, § 40.

[1366] Exchange Agreement No. 35 of the Ministry of the Popular Power for Banking and Finance and the Central Bank of Venezuela, Official Gazette No. 40.865, published 9 March 2016, Brailovsky & Flores ER II, **RER-7 App. BF−222**, Articles 8, 11.

[1367] This explains the Respondents valuation which applies different exchange rates for Yr. 2016 as explained at *supra,* § 920.ii.

[1368] Brailovsky & Flores ER II, **RER-7**, §§ 41-42, 48.

[1369] Brailovsky & Flores ER II, **RER-7**, §§ 48-49

[1370] Brailovsky & Flores ER II, **RER-7**, §§ 43-45.

intercompany or third party loans or other source, pay the Projects' suppliers in US dollars and hire international suppliers and pay them in US dollars outside of Venezuela"[1371] is entirely unsubstantiated. The Respondents explain that their calculations already account for the payment of a certain percentage of the CAPEX and OPEX in US dollars based on the percentage of costs that would be incurred outside of Venezuela. There is no basis to assume that further costs would have been incurred outside Venezuela, much less that this would have been feasible. Furthermore, most of the labour for the Projects had to be employed locally (and therefore paid in local currency) and was protected by strong labour unions. These could therefore not be easily ousted for outsourced labour. Finally, under the Organic Law of Labour and Workers, there was a cap on the number of foreign employees that could be hired and the remuneration that they could be paid.[1372]

935. In light of all of the above, the Respondents contend that the inflation and exchange rates adopted by their experts is the most appropriate.

iii. <u>The Tribunal's determination</u>

936. Having examined the Parties' submissions, the Tribunal finds that the Parties' experts differ as to (i) the methodology by which they have calculated the nominal value of the Project costs, as well as (ii) the inflation and exchange rate that they have applied.

937. That said, the Claimants' expert does not oppose the Respondents' methodology or chosen inflation rate outright.[1373] Rather, according to Mr. Abdala the key issue driving the difference in the costs calculations put forward by the Parties' experts is the applicable exchange rate. He states that, "[o]nce alternative legal exchange rates are applied inflation and the relevant exchange rate move more closely together".[1374] Thus Mr. Abdala implies that once a more favourable and higher exchange rate is applied, any discussion regarding methodology and inflation rate is rendered moot.

[1371] Abdala ER II, **CER-8**, § 80.

[1372] Figuera, WS I, **RWS−2 Annex E**, § 14; Decree with Rank, Value and Force of Organic Law of Labor and Workers, Official Gazette No. 6.076 (Extraordinary), published May 7, 2012, Brailovsky/Flores ICSID Consolidated Report, **App. BF−234**, Article 27.

[1373] Abdala ER II, **CER-8**, fn. 74 (Mr. Abdala states, "There are two other differences in input prices estimates. First, Brailovsky and Flores use a different index to inflate US dollar costs for the period between the expropriation and the date of valuation. While I apply the observed inflation in the E&P industry, as reflected by the US Producer Price Index for crude oil industrial commodities, Brailovsky and Flores use US cost inflation indices prepared by the oil industry consultancy IHS. Both sources are reputable, and I therefore retain my assumption based on the US PPI. Using the IHS indexes for cost inflation during the historical period would decrease my overall damages estimate by 1.4%. […]")

[1374] Abdala ER II, **CER-8**, fn. 90.

As a consequence of this approach, most of the Claimants' submissions center around the selection of the appropriate exchange rate.

938. In this regard, the Claimants' key argument is that "any reasonable project manager" would have taken steps to avail of the most favourable exchange rates that existed in Venezuela by financing the Projects operations through intercompany or third party loans or other sources, paying the Projects' suppliers in USD and hiring international suppliers so as to pay them in USD outside Venezuela. However, having examined the Claimants' proposals, the Tribunal finds the Respondents' position more convincing.

939. First, as the Respondents correctly point out, until Exchange Agreement No. 35 issued in March 2016, none of the Exchange Agreements cited by the Claimants applied to USD revenues earned from the sale of hydrocarbons abroad. Thus, a favourable exchange rate would not have been applicable to USD revenues until March 2016 at least.[1375]

940. Second, to the extent that favourable exchange rates were applicable to USD generated from other activities, they were only applicable to PDVSA, its subsidiaries and *empresas mixtas*. For instance, the Claimants suggest that the Projects could have financed their operations through intercompany loans, which they claim were eligible for more favourable exchange rates. In support of this proposal, Mr. Abdala cites Exchange Agreement No. 24 of 2013 and Exchange Agreement No. 28 of 2014. However, these state in relevant part as follows:

> **Article 1.** The purchase currency exchange rate applicable [PDVSA] and its subsidiaries, as well as to mixed companies [...] for the sale of currency stemming from activities or operations different to those of export and/or sales of hydrocarbons, shall be the same as the exchange resulting from the last assignation of currencies carried out through the Complementary System of

[1375] Exchange Agreement No. 35, Ministry of the Popular Power for Banking and Finance and the Central Bank of Venezuela, Official Gazette No. 40.865, 9 March 2016, **App. BF-222**, Article 11 ("The sale transactions of foreign currency by Petroleos de Venezuela, S.A. (PDVSA), its subsidiaries, and mixed companies mentioned in the Organic Law of Hydrocarbons, the Organic Law of Gaseous Hydrocarbons and Organic Law for the Development of Petrochemical Activities, resultant from financing, financial instruments, capital contributions in cash, asset sales, exports and/or sale of hydrocarbons, dividends received, debt collection, provision of services, and from any other source, will be made at any of the exchange rates provided in this Exchange Agreement, with a reduction of zero point twenty five percent (0.25%), in response to the programming, coordination and evaluation between the Sectorial Vicepresidency of Economy, the Ministry of Popular Power for Banking and Finance and the Central Bank of Venezuela, according to the established policies and the availability of foreign currency to meet the needs of the economy governed by the exchange rate referred in Chapter I of this Exchange Agreement.")

> Currency Administration […] which shall be published in the website of said institute, reduced by a cero point twenty-five percent (0.25%).[1376]
>
> **Article 5.** Sale of currency operations by [PDVSA] and its subsidiaries, as well as by mixed companies […], stemming from financing, financial instruments, cash capital contributions, sales of assets, received dividends, debt collection, provision of services, and from any other source as long as they result from activities or operations different from the export and/or sales of hydrocarbons, shall be subject to […] the currency exchange […] applicable at the date of the respective operation, reduced by a reduced by a cero point twenty-five percent (0.25%). To that effect, [PDVSA]'s subsidiaries as well as mixed companies […] shall provide the currencies to [PDVSA] which in turn will undertake the corresponding sale on their behalf.
>
> **Sole Paragraph**: The sale of currency operations generated due to the operations and activities of export and/or sales of hydrocarbons by [PDVSA] and its subsidiaries, as well as by mixed companies […] will continue to be subject by what is established in the Exchange Agreement No, 9 of 14 July 2009.[1377]

941. Finally, the Claimants have relied on Article 5 of Exchange Agreement No. 9 to argue that even Associations were eligible for favorable exchange rates, both before and after the Expropriation.[1378] Consequently, they would have been in a position to obtain the most favourable exchange rate. However, the Tribunal finds that the Claimants' reliance on Article 5 of Exchange Agreement No. 9 is misplaced. Article 5 provides as follows:

> Companies created by virtue of the association agreements subscribed by Petróleos de Venezuela, S.A. under the framework of the derogated Organic Law that Reserves to the State the Industry and Trade of Hydrocarbons, mixed companies referred to in the Organic Law of Hydrocarbons and Organic Law of Gas Hydrocarbons, as well as the mixed companies constituted pursuant to the provisions of the Organic Law for the Development of Petroleum Activities, may maintain currency accounts abroad in banking institutions or institutions of a similar nature, by virtue of the revenues received, for the purpose of executing corresponding payments and reimbursements outside the Bolivarian Republic of Venezuela, which shall be monitored by the Central Bank of Venezuela, who shall issue the corresponding regulation. **The remaining foreign currency, must be sold to the Central Bank of Venezuela, at the currency exchange rate fixed pursuant to Article 6 of the Exchange Agreement No. 1 dated February 5, 2003.**[1379]

942. Thus, quite apart from the Claimants' interpretation, Article 5 only permits the Associations to maintain a currency account in a foreign banking institution for the

[1376] Exchange Agreement No. 24, Ministry of the Popular Power for Banking and Finance and the Central Bank of Venezuela, Official Gazette No. 40324, 30 December 2013, **CLEX-096**, Article 1 (translation by the Tribunal).

[1377] Exchange Agreement No. 28, of the Ministry of the Popular Power for Banking and Finance and the Central Bank of Venezuela, Official Gazette No. 40387, 3 April 2014, **CLEX-097**, Article 5 (translation by the Tribunal).

[1378] C-PHB, §§ 827-828.

[1379] Exchange Agreement No. 9 of the Ministry of the Popular Power for Economics and Finance and the Central Bank of Venezuela, Official Gazette No. 39.239, published on 11 August 2009, Brailovsky/Flores ICSID Consolidated Report, **App. BF-240**, Article 5.

purposes of holding a portion of foreign revenues that will be required for executing corresponding payments outside Venezuela. All the remaining foreign currency has to be sold to the Central Bank of Venezuela at the exchange rate fixed in Exchange Agreement No. 1.

943. Exchange Agreement No. 9 in and of itself does not entitle the Claimants to a better exchange rate. Rather, it points to another agreement, i.e., Exchange Agreement No.1, which presumably sets out the exchange rate at which the Central Bank of Venezuela will purchase USD. The Claimants' argument that they were also entitled to a better exchange rate thus remains unsubstantiated.

944. To the extent Article 5 of Exchange Agreement No. 9 allows associations to maintain foreign currency accounts and make payments in foreign currency, the Tribunal notes that Mr. Brailovsky and Mr. Flores' calculations already account for a certain percentage of the costs being incurred in USD. In particular, they assume that the "30% portion of OPEX and the 70% portion of CAPEX that is incurred in U.S. dollars would have been paid in U.S. dollars, presumably with proceeds from the sale of hydrocarbons that were kept in U.S. dollar accounts outside of Venezuela".[1380]

945. The Claimants have not produced any evidence to suggest that these percentages could and should have been increased in light of Venezuelan macroeconomic factors. To the extent they have made the proposals highlighted above,[1381] the Tribunal finds that these are merely suggestive and the Claimants have not provided any basis to support their assumption that had they remained with the Projects, they would have adopted such methods to reduce costs.

946. Thus, the Tribunal finds that the Claimants and their expert Mr. Abdala have not established that, but-for the Expropriation, the Associations would have been in a position to avail of better and/or more favorable exchange rates, would have actually done so, and that in the process the effect of Venezuelan inflation would have become less pronounced. On balance, the Tribunal finds the Respondents' case on exchange rates more plausible.

947. Moreover, the Tribunal is of the view that the Respondents' methodology better reflects the real costs incurred by the Projects. In particular, the Tribunal is satisfied with the Respondents' use of actual inflation rates until 2015 and thereafter the IMF

[1380] Brailovsky/Flores ICSID Consolidated Report, § 176.

[1381] *Supra,* §§ 916.i-916.iii.

projected inflation rates to determine the nominal value of costs as it considers such data reliable.

948. In sum, the Tribunal is of the view that the Claimants have been unable to demonstrate their case that the Projects could have availed of more favorable exchange rates in the but-for world and that by doing so they would have overcome the effects of high Venezuelan inflation. As such, the Tribunal finds the Respondents' case on inflation and exchange rates more reliable and will adopt the same in its calculations.

E. POST-EXPROPRIATION FISCAL REGIME

1. The Claimants' position

949. The Claimants' overall contention is that "[i]t would be manifestly improper to reduce the indemnification owed for one Discriminatory Action by hypothesizing the application of another Discriminatory Action in the but-for world".[1382] In view of this, they submit that the Income Tax Increase,[1383] the Royalty Measure, and the Extraction Tax, are all DAs under both AAs (the latter two as part of the Overall Expropriation).[1384] Thus, these measures "should be ignored in determining the indemnification owed [by the Respondents] for [the issuance of DAs]".[1385] In view of this, the Claimants have instructed their quantum expert to assume that, for the purposes of determining the *ex post* scenario under the DA provisions, the Projects: "(i) pay the general corporate income tax rate of 34% (not 50%); (ii) benefit[…] from the Royalty Reduction Agreement; and (iii) are not subject to the Extraction Tax".[1386]

950. Similarly, the Claimants argue that several taxation measures not applicable to the Projects pre-Expropriation would constitute DAs if applied to both Projects in the but-for world.[1387] This is the case of:

i. The "the so-called 'Windfall Profits Tax' […], also known as the 'Special Contribution Tax,' introduced by the Government in 2008";[1388]

[1382] Reply, § 474.

[1383] *Supra*, § 94.i

[1384] *Supra*, § 94.ii

[1385] C-PHB, § 863.

[1386] C-PHB, § 862.

[1387] C-PHB, § 865.

[1388] Reply, § 462; C-PHB, § 865.

ii. The "'Social Contribution' tax [of 2007], a marginal tax applicable to *empresas mixtas*",[1389] requiring the payment of "1% of [the] prior years income before tax";[1390]

iii. The "'Shadow Tax' [of 2007] (also known as the 'Special Advantage Tax'), which guarantees the Government a minimum of 50% take of the production value of *empresas mixtas*";[1391] and

iv. The Anti-Drug Contribution of 2005, consisting of a 1% tax applied to the net income of "public or private legal entities [employing] 50 or more workers".[1392]

951. Therefore, the Claimants have also instructed their quantum expert to exclude the Windfall Profits Tax, the Social Contribution and the Shadow Tax from his post-Expropriation DA calculations.[1393] Mr. Abdala further understands that the Anti-Drug Contribution was only applicable to the Petrozuata Project and, as such, has not included the said measure in the Hamaca Project's but-for scenario.[1394] The Claimants endorse Mr. Abdala's understanding.[1395]

952. With respect to the Windfall Profits Tax in particular, the Claimants argue that, in any event, the Projects would not have been subject to said measure. This is so given that: (i) the "Projects would have taken advantage of one or more of the WPT's carve-outs and exemptions […]";[1396] and (ii) "the future content or even existence of the [Windfall Profits Tax] cannot be assumed given that it has been repealed, re-enacted, and repeatedly amended since its arrival in 2008 […]."[1397]

953. In this context, the Claimants refer to:

i. Article 12.2 of the Windfall Profits Tax Law, carving-out from the law's scope any exports to certain exempt states with which Venezuela has an international cooperation and financing agreement. In the but-for scenario, the Projects "could and would have modified their operations, if necessary, to

[1389] Reply, § 474.

[1390] Abdala ER II, **CER-8**, Table 6.

[1391] Reply, § 474.

[1392] Abdala ER I, **CER-3**, § 235, fn. 183; C-PHB, Appendix F, § 32(b).

[1393] Abdala ER II, **CER-8**, fn. 30.

[1394] Abdala ER I, **CER-3**, fn. 183.

[1395] C-PHB, Appendix F, § 32(b).

[1396] C-PHB, § 852.

[1397] C-PHB, § 852.

export to Exempt States to avoid the imposition of the [Windfall Profits Tax]".[1398]

ii. Article 12.1 of the 2011 Windfall Profits Tax Law, exempting from its scope any exports from projects engaged in EOR techniques. In the but-for world, such "technology could and would have been implemented at both Projects".[1399]

iii. The option of significantly reducing the Projects' exposure to the Windfall Profits Tax by "selling production locally in Venezuela", considering that the said measure "was imposed only on production sold abroad".[1400]

iv. The possibility of reducing the Projects' taxable base by making "royalty-in-kind" payments, thereby reducing the Windfall Profits Tax owed by the Projects.[1401]

v. The fact that the Windfall Profits Tax law has been repeatedly "repealed, replaced or amended" since its enactment, thus "rendering any assumption about its future applicability or content […] highly speculative".[1402]

vi. The Respondents' document production in this arbitration, which confirmed that "the Petropiar Project (formerly Hamaca) has not paid the WPT since October 2013 and similarly appears to have been exempt from the WPT between April and December 2011".[1403] In this regard, the Claimants further note that, despite the "Tribunal's Procedural Order No. 2, and follow-up correspondence from Claimants to Respondents on 25 May 2016, Respondents have refused to produce the equivalent documents for PDVSA's other subsidiaries, including the Petroanzoátegui Project (formerly Petrozuata)".[1404] Hence, the Tribunal should draw the appropriate inferences, "namely that the Projects are not subject to the [Windfall Profits Tax] post-

---

[1398] C-PHB, § 853.

[1399] C-PHB, § 855.

[1400] C-PHB, § 857.

[1401] C-PHB, § 858.

[1402] C-PHB, § 859.

[1403] C-PHB, § 860.

[1404] C-PHB, § 860.

expropriation and, accordingly, that neither would be subject to the [Windfall Profits Tax] in the but-for scenario".[1405]

2. The Respondents' position

954. The Respondents argue that the Claimants are wrong in assuming that they would have "benefited from the fiscal stability they were denied in the 1990s, even though the entire documentary record in this case shows that it was a fundamental condition of the Congressional Authorizations that the State retained unfettered its right to take governmental measures to capture profits generated by high oil prices".[1406] In this context, the Respondents highlight that the Claimants themselves have conceded that the lack of fiscal stability of the Projects is "uncontroversial".[1407]

955. As such, the Projects remained "subject to governmental action [affecting] project economics", and there are no grounds to hypothesize that the state of affairs would have been any different post-Expropriation.[1408] To the contrary, the principle of full reparation suggests that the correct assumption is to project a but-for scenario that accounts for all the taxation measures applicable today in the Venezuelan oil industry. Otherwise, the Claimants would artificially place themselves "in a better position that they would have been in had they remained in the Projects".[1409] The compensation owed to the Claimants under the DA provisions "requires consideration of <u>all</u> factors affecting value in applying *retitutio in integrum*", including the taxation measures not initially applicable to the Projects prior to the Expropriation.[1410]

956. With respect to the applicability of the Special Contribution or Windfall Profits Tax in particular, the Respondents argue that the Claimants' view that the Projects would have qualified for exemptions is misguided. The Respondents explain their argument as follows:[1411]

> In the first instance, although the applicable law provides for certain exemptions, all such exemptions must be specifically approved in each instance, subject to the discretion of the Ministry. […] Claimants' assertion that the Projects would be granted exemptions is purely speculative, not only because there is no indication that the associations would have engaged in any

[1405] C-PHB, § 860.

[1406] Rejoinder, § 377.

[1407] Rejoinder, § 379; Reply, § 291.

[1408] Rejoinder, fn. 737.

[1409] R-PHB, § 574.

[1410] R-PHB, § 577.

[1411] Rejoinder, fn. 743; R-PHB, fn. 1196.

> activities for which exemptions may have been available […], but more significantly, because they have no explanation for presuming that discretionary exemptions would be granted to associations or their participants when associations were clearly a disfavored vehicle in which PDVSA subsidiaries held minority stakes in the economic benefits of the Projects. Further, Claimants had their own unique contractual framework created in the 1990s, including the congressionally-approved Compensation Provisions protecting them from governmental tax measures up to the threshold cash flow levels specified in the Association Agreements, while permitting the Government to reap the benefits of excess profits. Having refused to migrate to the mixed company framework under which all companies operating in Venezuela's petroleum sector have conducted their activities since 2007, it defies credulity to assume that they would have nevertheless been granted exemptions from windfall profits taxes accorded to post-migration mixed companies, while at the same time maintaining the structure and contractual protections they had under the Association Agreements, particularly when that structure and those protections had expressly been negotiated in light of the possibility of windfall profits.

3. Analysis

a. *Preliminary matters*

957. According to Article 14.2(f) Hamaca AA, the RNCF requires the subtraction of taxes (i.e. the "OT", "ITR", and "SC" variables defined in the RNCF formula) from the Project's cash-flow.[1412] Article 14.2(g) of the Hamaca AA in turn states that, for the purposes of calculating the TCF, the foregoing variables must only account for taxes "that did not themselves constitute [DAs]".[1413] Consequently, insofar as the Hamaca AA is concerned, the determination of the TCF, and thus, of the but-for scenario, requires the exclusion of taxation measures that constitute DAs in their own right.

958. The Tribunal is of the view that the same conclusion must be reached with respect to the Petrozuata AA. Unlike the Hamaca AA, the Petrozuata AA lacks a clear contractually defined formula specifying the variables relevant to calculate the compensation owed by the Respondents under the DA provisions.[1414] Nonetheless, it is common ground between the Parties' quantum experts that, precisely for that purpose, the fiscal regime applicable to the Petrozuata Project must be computed along with its cash flow.[1415] It would therefore be nonsensical to consider taxation measures in the but-for scenario that, in and of themselves, constitute DAs in the but-for scenario. Otherwise, the DA provisions of the Petrozuata AA would be devoid of *effet utile*.

[1412] *Supra*, § 553.

[1413] Hamaca AA, **C-3**, Article 14.2(g); *supra*, fn. 833.

[1414] *Supra*, § 552.

[1415] *Supra*, §§ 550-551.

959. *A contrario*, taxation measures that cannot be characterized as DAs must remain as relevant inputs in the determination of the *ex post* quantum scenario. In this context, the Tribunal recalls its determinations that the Income Tax Increase indeed constitutes a DA, while the Royalty Measure and the Extraction Tax do not.[1416]

960. Subject to its findings on liability,[1417] the Tribunal therefore determines that the calculation of the DA but-for scenario must assume that the Projects were not subject to the Income Tax Increase. However, the Royalty Measure and the Extraction Tax, not being DAs, must be discounted from the Projects' cash flow.

961. Further to the Parties' submissions, the taxation measures at issue that have not yet been subject to a determination by the Tribunal are thus the following:

   i. The *Ley de Contribución Especial sobre Precios Extraordinarios del Mercado Internacional de Hidrocarburos* of 2008, referred to by the Respondents as the Special Contribution and by the Claimants as the Windfall Profits Tax or WPT (henceforth, "Special Contribution" or "SPEC").[1418] The SPEC establishes a contribution payable when crude oil prices exceed certain thresholds established by law. For instance, when initially adopted, the SPEC essentially required the payment of USD 0.50 for every dollar that the average price of the Venezuela basket of crude oils found itself between USD 70 and USD 100 per barrel, and of USD 0.60 for every dollar that the price of the Venezuelan basket exceeded USD 100 per barrel.[1419] While foregoing thresholds and tax rates (along with various other provisions of the SPEC) were amended in 2011 and 2013,[1420] the implications of said amendments are not in dispute between the Parties.

   ii. The Social Contribution of 2007 ("Social Contribution" or "SOCO"). It is common ground between the Parties' quantum experts that the SOCO requires the payment of 1% of the previous year's net income before taxes for social development programs.[1421] The Parties do not seem to have introduced the text of the SOCO into the record.

[1416] *Supra*, §§ 294.i-294.vii

[1417] *Supra*, § 294.xi-294.xii.

[1418] Special Contribution 2008, **App. BF-105**; **C-298**.

[1419] Special Contribution 2008, **App. BF-105**, Article 1; Brailovsky & Flores ER I, **RER-3**, § 218.a.

[1420] Special Contribution 2011, **App. BF-108**; Special Contribution 2013, **App. BF-112**.

[1421] Abdala ER II, **CER-8**, Table 6; Brailovsky & Flores ER I, **RER-3**, § 218.d.

iii. The Special Advantage Tax of 2007, also referred to by the Claimants as the Shadow Tax ("Special Advantage" or "SPAT"). It is common ground between the Parties' quantum experts that the SPAT requires the payment of "the excess, if any, of 50%" of the value of hydrocarbons extracted "over the sum of all royalties, taxes and contributions paid" by the Projects.[1422] The Parties do not seem to have introduced the text of the SPAT into the record.

iv. Article 96 of the *Ley Orgánica Contra el Tráfico Ilícito y el Consumo de Sustancias Estupefacientes y Pscicotrópicas* of 2005 ("Anti-Drug Contribution" or "ADCO"). The ADCO requires all companies employing 50 or more workers to contribute 1% of their annual net income to the prevention of trafficking and consumption of illegal drugs.[1423]

962. The Tribunal will now assess whether, pursuant to the Parties' submissions, the SPEC, the SOCO, the SPAT, and/or the ADCO can be characterized as constituting DAs under either of the AAs.[1424] Before doing so, however, the Tribunal must first establish whether these existing taxation measures could have applied to the Projects in the but-for world.

963. In this regard, the Tribunal notes that the Respondents' quantum experts consider that the Adjusted Price determining the TCF finds itself below the minimum price threshold required by the SPEC.[1425] As such, they assume the SPEC would not have applied to the Hamaca Project post-Expropriation.[1426] Similarly, Mr. Brailovksy and Mr. Flores "do not calculate the [SPAT] in [their] compensation calculations for the Hamaca Project, assuming that it may not have applied in a scenario where Brent oil prices were [USD 27 in y. 1994 USD]".[1427]

964. Given that the Claimants outright exclude the application of both the SPEC and the SPAT from their DA calculations, the Tribunal finds no reason to disagree with the Respondents' quantum experts: it must therefore be assumed that the Hamaca Project would not have been subject to either the SPEC or the SPAT. The Tribunal

[1422] Abdala ER I, **CER-3**, 236.b; Brailovsky & Flores ER I, **RER-3**, § 218.g.

[1423] Anti-Drug Contribution 2005, **App. BF-117,** Article 96; Anti-Drug Contribution 2010, **App. BF-118**, Article 32; Brailovsky & Flores ER I, **RER-3**, § 218.e; Abdala ER I, **CER-3**, 235.b.

[1424] For the sake of clarity, any determination as to the characterization of the SPEC, the SOCO, the SPAT, and/or the ADCO as DAs or not should not be misconstrued as a decision on liability. Such a determination is only relevant for quantum purposes in line with the DA formulae (*supra*, §§ 957-958).

[1425] Brailovsky & Flores ER I, **RER-3**, § 218.a; *supra*, §§ 559-560.

[1426] Brailovsky & Flores ER I, **RER-3**, § 218.a.

[1427] Brailovsky & Flores ER I, **RER-3**, fn. 450.

understands that the quantum experts of both Parties already implement this assumption in their respective valuation models.

b. *Would the Special Contribution apply to the Projects?*

965. The Claimants have advanced various arguments in support of their contention that, post-Expropriation, the SPEC would not have been imposed on the Projects, or at least not to its full extent.[1428] The Tribunal is not persuaded by the Claimants' position for the reasons expanded on below.

966. While it is true that Article 12.2 of the SPEC law carves out from its scope crude exports to certain exempted states,[1429] the Tribunal finds it undemonstrated that the Claimants would have modified their operations to qualify for the said exemption. As pointed out by the Respondents, the SPEC law does not exempt from its application crude exports to states with which Venezuela has concluded international agreements on cooperation or financing; it does not provide for a list of exempted states either.[1430] Rather, it exempts crude exported in the "implementation of International Agreements on cooperation or financing".[1431]

967. It very well may be that, as the Claimants note, the post-Expropriation Projects have benefited from this SPEC exemption by exporting oil to, *inter alia*, China and certain members states of the Petrocaribe Oil Alliance.[1432] Nevertheless, the Claimants' own exhibits indicate that the said exports were, to an important extent: (i) made to repay Venezuela's sovereign debt or in exchange for payments in-kind (i.e. food) or other services;[1433] or (ii) subject to long-term repayment periods exceeding 20 years.[1434] As phrased by the Respondents, it "hardly seems likely" and even "somewhat silly" that the Claimants would have exported crude under these conditions.[1435]

[1428] *Supra*, § 953.

[1429] Special Contribution 2011, **App. BF-108**, Article 12.2 ("Exempt from the contributions of this law are: 2) The export volumes in implementation of International Agreements on cooperation or financing"); Special Contribution 2013, **App. BF-112,** Article 7.

[1430] R-PHB, § 584.

[1431] R-PHB, § 584 (emphasis by the Respondents); *supra*, fn. 1429.

[1432] C-PHB, § 583.

[1433] BLOOMBERG, *Venezuela Siphoning U.S. Oil Exports to China Sinks Bonds*, 4 February 2014, **C-334**, p. 1; REPORTERO 24, *Pdvsa Raised Financing to Petrocaribe's Countries to 60%*, 28 April 2011, **C-316**, p. 1; EL NACIONAL, *$11.2 Billion that Will Not Be Collected through Special Contribution*, 22 February 2013, **C-323**, p. 1.

[1434] REPORTERO 24, *Pdvsa Raised Financing to Petrocaribe's Countries to 60%*, 28 April 2011, **C-316**, p. 1.

[1435] R-PHB, §§ 586-585.

968. The Claimants' argument that they could have benefited from the exemption in Article 12.1 of the SPEC law by implementing EOR techniques is similarly flawed.[1436] It is not contentious that the implementation of EOR techniques qualifies for SPEC exemptions under Article 12.1 of the SPEC law.[1437] Indeed, the Claimants have demonstrated that, pursuant to Article 12.1, the Ministry of Energy has granted SPEC exemptions to post-Expropriation projects implementing "improved recovery".[1438] This fact, however, simply corroborates that the SPEC exemption under Article 12.1 is subject to governmental authorization; an approval that the Claimants concede is required,[1439] and which, in the Tribunal's view, most probably would not have been obtained. As established elsewhere, it has not been demonstrated that the Claimants were or would have been either in the disposition or in the capacity of implementing EOR techniques.[1440]

969. For the Tribunal, the issue of Article 12 of the SPEC law thus boils down to the following: whether it would be acceptable for the Venezuelan Government to deny SPEC exemptions to the Claimants on the basis that the Claimants refused to migrate to the *empresas mixtas*.

970. The Respondents answer in the affirmative,[1441] while the Claimants submit entirely the opposite. In particular, the Claimants argue that denying SPEC exemptions (to which they were arguably "entitled […] under Venezuelan law") on such a principled consideration would be both "unlawful" and "discriminatory".[1442]

971. The Tribunal finds it difficult to agree with the Claimants' position. The need for Governmental authorization for the SPEC exemptions clearly denotes a certain degree of administrative discretion.[1443] Accordingly, it cannot be accepted that the Claimants would have been outright "entitled" to obtain the said exemptions under Venezuelan law. Without further arguments by the Claimants in this respect, the

[1436] *Supra*, § 953.ii.

[1437] Special Contribution 2011, **App. BF-108**, Article 12; Special Contribution 2013, **App. BF-112,** Article 7.

[1438] Ministry of Energy, *Technical Report on Determination of Volumes Subject to Exemption from Special Contribution for Extraordinary Prices and Exorbitant Prices on International Market of Hydrocarbons*, 2012 and 2013, **C-337**, pp. 2-5.

[1439] C-PHB, § 856.

[1440] *Supra*, § 717.

[1441] *Supra*, § 956.

[1442] C-PHB, § 856.

[1443] Special Contribution 2011, **App. BF-108**, Article 13 ("The special contributions set forth in this Law may be subject to partial or total exoneration **on the part of the National Executive, in favor of certain exports within the framework of political economy and international cooperation**") (emphasis added).

Tribunal finds no justification to determine that the denial of SPEC exemptions on the grounds discussed above would be "unlawful", as broadly argued by the Claimants.

972. The Claimants' submission regarding alleged discrimination fares no differently. Beyond this general statement, the Claimants have not elaborated on why the denial of SPEC exemptions for the reasons set out above would be discriminatory under general Venezuelan law. If by resorting to discrimination-based arguments the Claimants intended to refer to the DA provisions, then the Claimants conflate two different issues. Whether the SPEC or a refusal to grant SPEC exemptions must be deemed DAs has no bearing in the present analysis. Indeed, the Tribunal must first determine whether the SPEC would have been applicable in the post-Expropriation's but-for scenario (as it is today). Only then is it apposite to ascertain whether the SPEC or the denial of SPEC exemptions can be characterized as DAs;[1444] an inquiry that is developed further below.[1445] Overall, the Tribunal considers that the Claimants have failed to sufficiently demonstrate the SPEC's inapplicability to the Projects on the basis of the exemptions envisaged in the SPEC law.

973. In any event, the Tribunal cannot help but note that Article 12 of the SPEC law was only introduced in 2011. When initially adopted in 2008, the SPEC law made no mention to specific exemptions. Rather, it generally stated that the SPEC could "be subject, by the National Executive Power, to total or partial exemption in benefit of certain exports, within the framework of economic policies and international cooperation".[1446] In this context, the Claimants have not provided any explanation as to how they would have avoided the imposition of the SPEC from 2008-2011 by way of a statutorily defined exemption.

974. More significantly, perhaps, the Claimants are entirely silent in terms of how they would have actually adapted their operations to qualify for the SPEC exemptions. The studies, details, analyses, projections or even internal estimates of the steps that the Claimants would have concretely undertaken to benefit from the SPEC exemptions are conspicuous for their absence. In these circumstances, a mere statement that the Claimants would have done everything possible is, by and large, insufficient.

[1444] *Supra*, § 962.

[1445] *Infra*, § 994.

[1446] Special Contribution 2008, **App. BF-105**, Article 2.

975. The foregoing is a recurrent problem in the Claimants' position regarding the alleged operational changes that would have been carried out in order to avoid their exposure to the SPEC. The Claimants submit that they would have:

i. Sold production "locally in Venezuela" and therefore avoided the SPEC, as the latter only applies to the export of crude.[1447] According to the Claimants, "PDVSA's own records confirm that *empresas mixtas*—including those producing EHCO—were designed to sell the vast majority of their production in Venezuela, thus avoiding the imposition of [the SPEC] on these sales".[1448]

ii. Reduced their SPEC taxable base by making "royalty-in-kind" payments,[1449] that is, by "putting 'the volume of hydrocarbons extracted from any field' towards royalties owed" ("RIK Payments").[1450] According to the Claimants, the "Respondents' document production in this arbitration confirms that the Petropiar Project (formerly Hamaca) has benefited from such RIK Payments".[1451]

976. The Tribunal cannot take the Claimants' arguments at face value. This is so precisely because the Claimants have not elaborated or even hypothesized on how and to what approximate extent these operational changes could have been implemented.[1452]

[1447] *Supra*, § 953.iii - 953.iv.

[1448] C-PHB, § 857.

[1449] *Supra*, § 953.iv.

[1450] C-PHB, § 858.

[1451] C-PHB, § 858.

[1452] R-PHB, fn. 1240 ("Finally, Claimants argue that they could have used EHCO that could not be upgraded to pay royalties, thereby mitigating the financial effects of reduced CCO production. […] That argument ignores a number of points. First, the associations were "upgrading" projects, and the prohibition against blending could not be circumvented by simply foisting non-upgraded EHCO on the Government in payment of the royalty. The fact that a mixed company authorized to sell blended product was also directed in some circumstances to pay royalties "in-kind" has no bearing on the issue of whether the associations could do so. Second, even if an association had been permitted to make royalty payments "in-kind" at its option, it is unclear how such in-kind payments would be implemented. EHCO cannot be delivered unless it is diluted with a lighter hydrocarbon that makes it mobile in the pipeline, and therefore the Projects would need to purchase new diluent (usually naphtha) in order for additional EHCO production at the field to be achieved. Claimants do not take into account the costs of the naphtha or the logistics of dealing with royalty in-kind payments. Finally, Claimants and their expert are wrong when they argue that the associations could simply have paid the royalty in-kind at their option. Under the Hamaca Association Agreement, the parties were "required to pay to the appropriate Venezuelan authorities in Bolívares the amount of the royalty due in respect of the Extra-Heavy Oil title to which vests in such Party pursuant to Section 9.2." It was only if the Ministry decided at its option to take the royalty in-kind that the royalty could be paid in that manner").

977. In any event, with respect to the possibility of selling crude within Venezuela in particular, the Tribunal notes that the Claimants' assumptions are inaccurate.[1453] Indeed, PDVSA's "own records" do not "confirm" that the *empresas mixtas* "were designed to sell the vast majority of their production in Venezuela" (thereby avoiding the imposition of the SPEC on those domestic sales).[1454] The evidence relied upon by the Claimants to make that assertion only states that an important characteristic of the *empresas mixtas* model is its product placement: the extracted crude can only be commercialized by the Venezuelan State, through PDVSA or another state entity.[1455] Accordingly, the report continues, the *empresas mixtas* shall deliver the totality of their hydrocarbon production of Venezuela, who will in turn sell the said production to the customers it deems convenient.[1456] Only thereafter, the *empresas mixtas* shall receive payment for the production transferred in accordance with the appropriate market price.[1457] Therefore, nothing in the Claimants' relied-upon evidence points to the conclusion that the aforementioned "deliver[y]" of production volumes to PDVSA amounts to a domestic sale of crude.[1458] This is more so given that it appears to be within PDVSA's full discretion to commercialize the received production volumes either internally or abroad.

978. In light of the above, the Tribunal determines that the SPEC must be deemed applicable to the Projects in the but-for scenario. The Tribunal's view remains the same even in consideration of the Claimants' arguments that:

i. The SPEC law has been repeatedly "repealed, replaced or amended";[1459] and

---

[1453] *Supra*, § 975.i.

[1454] C-PHB, § 858.

[1455] Ministry of Energy and Petroleum and PDVSA, *Empresas Mixtas*, March 2006, **C-273**, p. 18 ("*Una característica importante del modelo de Empresas Mixtas está relacionada con el tema del proceso de colocación en los mercados del petróleo extraído: éste no podrá ser comercializado por terceras compañías. Aunque el recurso explotado será propiedad de las operadoras de las Empresas Mixtas, el mismo solamente será comercializado por el Estado venezolano, a través de PDVSA u otro ente estatal*"); C-PHB, fn. 1555; Reply, fn. 917.

[1456] Ministry of Energy and Petroleum and PDVSA, *Empresas Mixtas*, March 2006, **C-273**, p. 19 ("*Las Empresas mixtas entregarán la totalidad de su producción de hidrocarburos a PDVSA y ésta venderá la producción a los clientes que considere convenientes"*).

[1457] Ministry of Energy and Petroleum and PDVSA, *Empresas Mixtas*, March 2006, **C-273**, p. 19 ("*Y, al final de ese proceso, las Empresas Mixtas recibirán el pago del valor de los hidrocarburos, conforme a los precios de mercado"*).

[1458] C-PHB, fn. 1555; Reply, fn. 917.

[1459] *Supra*, § 953.v.

ii. Advserse inferences should be drawn given the Respondents' failure to produce the full set of documents showing the entitlements, by PDVSA and its subsidiaries, to tax exemptions, exceptions, or deductions.[1460]

979. The Tribunal fails to see how the changes in the SPEC may affect its (in)applicability. First, it is well within Venezuela's prerogative as a sovereign state to repeal, replace, or amend its legislation. Second, while the original 2008 SPEC law was repealed in 2011, this only occurred to introduce more comprehensive legislation on the matter.[1461] Since then, the SPEC law has been subjected to certain amendments (with respect to its thresholds and rates), yet its basic structure and applicability has never been put into question.[1462] The Claimants contend that the SPEC law may be further amended in the future.[1463] Nevertheless, such a generalized eventuality is insufficient to exclude the SPEC from the but-for scenario. This is notably so, again, in the absence of forecasts by the Claimants on how the SPEC could have been imposed post-Expropriation (for instance, in accordance with their own oil price projections).

980. Similarly, while it is unfortunate that the Respondents have not produced all documents pertaining to the possible tax benefits enjoyed by PDVSA (and its subsidiaries), it is not in itself dispositive of the issue at hand. Since the very outset the SPEC law has envisaged the possibility of granting "total or partial exemption[s] in benefit of certain exports, within the framework of economic policies […]".[1464] In this context, the Tribunal finds it unsurprising that, as alleged by the Claimants, the PetroPiar Project appears to have been exempted from the payment of the SPEC since 2013.[1465] In fact, it would not strike it as odd if the same could be said of the Petroanzoategui Project (formerly Petrozuata).

981. The issue, however, is not whether the post-Expropriation projects were granted SPEC exemptions. Rather, it is whether it can be safely assumed that the same exemptions would have been granted to the Claimants. Nothing in the record leads to that conclusion. To the contrary, the Respondents have been clear in their position of

---

[1460] *Supra*, § 953.vi.

[1461] Special Contribution 2011, **App. BF-108**, Articles. 15-16; Special Contribution 2013, **App. BF-112**.

[1462] Special Contribution 2013, **App. BF-112**; *supra*, fn. 1420.

[1463] C-PHB, fn. 1558.

[1464] Special Contribution 2008, **App. BF-105**, Article 2; Special Contribution 2011, **App. BF-108**, Article 13; *supra*, fn. 1446.

[1465] *Supra*, § 953.vi.

favoring *empresas mixtas* over those hypothetically remaining entities, such as the Claimants, that refused to adhere to the 2007 Nationalization Decree.[1466] It follows, once more, that the appropriate inquiry is then to assess whether such a stand by the Respondents is tantamount to discriminatory and unjust treatment (as defined in the DA provisions of each AA); an analysis that is subsequent to the one regarding the SPEC's applicability,[1467] and that is made *infra*.[1468]

982. For the reasons set out above, the Tribunal confirms its determination that, at least insofar as the Petrozuata Project is concerned,[1469] the post-Expropriation's but-for scenario must assume that the SPEC would have applied to the Projects.

c. ***Would the Social Contribution, the Special Advantage Tax and the Anti-Drug Contribution apply to the Projects?***

983. The Tribunal notes that the Respondents do not seem to have adopted a position with respect to the (in)applicability of either the SOCO and/or the SPAT. That being said, in essence, neither have the Claimants.

984. Aside from instructing Mr. Abdala to exclude the SOCO and the SPAT from his DA calculations,[1470] the Claimants have not offered a clear explanation in support of such instruction. The Claimants appear to submit that only *empresas mixtas* would have been subject to either the SOCO or the SPAT, hence implying that the Claimants would have not, had they remained in control of the Projects.[1471] Such a position, however, does not withstand scrutiny.

985. The Tribunal recalls that the Parties do not seem to have introduced the texts of the SOCO or the SPAT into the record.[1472] The Tribunal cannot therefore ascertain the accuracy of the Claimants' implied assertion. Being the interested Party in this respect, however, the Claimants carried the burden of demonstrating why and to what extent the SOCO or the SPAT should be deemed inapplicable in the but-for scenario; a burden that, in these circumstances, the Claimants have failed to meet.

[1466] *Supra*, fn. 1441.

[1467] *Supra*, §§ 969-972.

[1468] *Infra*, § 994.

[1469] *Supra*, §§ 963-964.

[1470] *Supra*, fn. 1393.

[1471] Reply, § 474; *supra*, §§ 950.ii-iii.

[1472] *Supra*, §§ 961.ii-iii.

986. Accordingly, the Tribunal determines that the post-Expropriation but-for scenario must assume that: (i) the SOCO would have been imposed to both Projects; and (ii) in line with its previous finding in relation to the Hamaca Project,[1473] the SPAT would have been imposed to the Petrozuata Project.

987. Regarding the ADCO, the issue also hinges on supporting evidence or, more precisely, the lack thereof. It is common ground between the Parties' quantum experts that the ADCO is applicable to public and private companies employing 50 or more workers.[1474] However, Mr. Abdala suggests that the Hamaca Project did not, and would not have, met such a requirement.[1475] While the Claimants themselves endorse Mr. Abdala's understanding,[1476] no specific submission is made to that effect, and no evidence is referred to what would lead to such conclusion.

988. The same can be said of the Respondents and their quantum experts. Besides disagreeing with Mr. Abdala's assumption, Mr. Brailovsky and Mr. Flores stop there: they do not elaborate on why the ADCO did apply and would have continued to apply to the Hamaca Project. The Respondents are equally silent on the matter.

989. Unlike the SOCO and the SPAT, the ADCO was originally adopted in 2005, that is, pre-Expropriation.[1477] Because of this, the Tribunal is of the view that the Respondents were in a better position to demonstrate that the ADCO was indeed imposed on the Hamaca Project up to the Expropriation. Given that the Respondents have failed to discharge their burden of proof, however, the Tribunal cannot but accept the Claimants' assumption that the Hamaca Project was not subject to the ADCO between 2005 and 2007. By consequence, the same must be projected post-Expropriation. The Tribunal therefore determines that, in the but-for scenario, the ADCO must be deemed inapplicable to the Hamaca Project.

d. *Are any of the applicable taxation measures DAs?*

990. The Tribunal has already found that the SPEC is not applicable to the Hamaca Project and therefore it does not need to determine whether it amounts to a DA under

---

[1473] *Supra*, § 963-964

[1474] Brailovsky & Flores ER I, **RER-3**, § 218.e; Abdala ER I, **CER-3**, 235.b.

[1475] Abdala ER I, **CER-3**, fn. 183.

[1476] C-PHB, Appendix F, § 32(b).

[1477] Anti-Drug Contribution 2005, **App. BF-117,** Article 96; Anti-Drug Contribution 2010, **App. BF-118**, Article 32; Brailovsky & Flores ER I, **RER-3**, § 218.e; Abdala ER I, **CER-3**, 235.b.

the Hamaca AA.[1478] That being said, as developed further below, it is clear to the Tribunal that the SPEC is not "discriminatory" in accordance with the DA provisions of the Petrozuata AA. This is so given that the Claimants have not applied the correct comparator.

991. The Claimants argue that the imposition of the SPEC must be excluded from the but-for scenario given that it constitutes "a [DA] in its own right".[1479] According to the Claimants, this is so because "it applies only to certain hydrocarbon-producing entities rather than to corporations generally".[1480] This is the only argument put forward by the Claimants. The Tribunal notes that the Respondents do not raise a specific argument with respect to the SPEC. However, the Tribunal recalls the Respondents' position in relation to the Income Tax Increase, which is equally applicable here. According to the Respondents, the issue turns on the meaning of what constitutes a generally applicable taxation measures: "[i]f the [measures are] generally applicable because they appl[y] to any tax payer engaging in the oil business, then they cannot be a [DA]".[1481] Albeit in the context of the Claimants' Willful Breach Claim, the Respondents further argue that "there is nothing wrong with having different fiscal regimes for companies that are not similarly situated".[1482] The Tribunal generally agrees.

992. Section 1.01 of the Petrozuata AA establishes a default comparator for the purposes of determining whether a particular qualified measure is discriminatory, namely, a measure whose "treatment" is not "applicable to all enterprises in Venezuela".[1483] However, as analyzed elsewhere in this award,[1484] Section 1.01 subsequently contemplates a first carve-out to the foregoing default comparator. This first carve-out states that "treatment shall not be considered discriminatory if it equally applies to the enterprises (*empresas*) within the oil industry in Venezuela".[1485]

[1478] *Supra*, § 963.

[1479] C-PHB, § 865.

[1480] C-PHB, § 865.

[1481] R-PHB, § 521; *supra*, § 185.

[1482] R-PHB, § 587.

[1483] Petrozuata AA, **C-1**, Section 1.01.

[1484] *Supra*, § 188.

[1485] Petrozuata AA, **C-1**, Section 1.01(a).

993. Being a taxation measure applicable to all private, mixed and public entities, and imposed on the export of crude oil and by-products,[1486] the SPEC must be deemed to "equally appl[y] to the enterprises […] within the oil industry in Venezuela" deciding to undertake export activities. Because of this, the SPEC cannot be characterized as a discriminatory qualified measure under the Petrozuata AA and, therefore, as a DA.

994. The same goes for the Claimants' arguments that the denial of SPEC exemptions would amount to discriminatory treatment.[1487] First, the Claimants do not develop their contention that an intentional denial of SPEC exemptions would have constituted a DA under the AAs. For instance, the Claimants fail to categorize administrative decisions denying tax exemptions as qualified measures falling under the purview of the relevant DA provisions of either AA.[1488] Assuming they do, however, the Claimants in any event merely make general statements as to how a denial of SPEC exemptions to the Projects would be "discriminatory".[1489] The Claimants do not refer to the DA provisions of the AAs and, as such, offer no contractual basis for their statements.

995. Second, the Respondents' position is clear: the granting of SPEC exemptions to *empresas mixtas*, as opposed to the Claimants, would have ultimately been determined by a policy to accord more favorable treatment to the former.[1490] In this context, the Tribunal cannot help but note that the Petrozuata AA specifically provides that "if special favorable treatment applicable only to the government owned companies is adopted, such treatment shall not be considered per se discriminatory".[1491]

996. For the reasons set out above, the Tribunal determines that it would run contrary to the explicit text of the Petrozuata AA to characterize, either the SPEC itself, or the eventual refusal to grant SPEC exemptions to the Claimants, as DAs. Therefore, the SPEC cannot be excluded from the but-for scenario and must be discounted from the cash flows that the Petrozuata Project would have generated had the Expropriation not taken place.

[1486] Special Contribution 2008, **App. BF-105**, Article 1; Special Contribution 2011, **App. BF-108,** Articles. 6, 8.

[1487] *Supra*, §§ 972,981.

[1488] *Supra*, § 111.

[1489] *Supra*, § 970.

[1490] *Supra*, § 956.

[1491] Petrozuata AA, **C-1**, Section 1.01(a)(3).

997. With respect to the SOCO and the SPAT, the issue is straightforward: the Claimants limit their argument to stating that "[t]hese taxes would also be [DAs], as defined in the AAs, and should be excluded for that reason".[1492] The relevant comparator under either AA is not identified nor the scope of each qualified measure is considered.

998. In short, the Claimants provide no elements for the Tribunal to assess whether, in fact, the SOCO and the SPAT are discriminatory in accordance with the contractual provisions of the Petrozuata and Hamaca AAs. In view of this, the Tribunal determines that neither of these measures can be deemed DAs and must therefore be duly accounted for in the but-for scenario.

F. INTEREST

999. It is common ground between the Parties that, with respect to the Claimants' DA Claim, each AA sets out the applicable interest rate in order to bring the lost historical cash flows forward to present value (i.e. the date of valuation, namely, 27 May 2016).[1493] The Petrozuata AA establishes a "Base Rate" interest of 12-month LIBOR.[1494] The Hamaca AA in turn establishes a 3-month LIBOR interest rate to the same effect.[1495]

1000. The issue in contention is whether the aforementioned rates must be granted on a compounded interest basis, as argued by the Claimants,[1496] or on a simple interest basis, as argued by the Respondents.[1497]

1001. According to the Claimants, Venezuelan law "permits the award of compound interest",[1498] which "reflects [the] economic reality [of] modern times".[1499] To support their argument the Claimants rely, chiefly, on investment arbitration awards,[1500] on the

---

1492 R-PHB, § 865.

1493 SoC, §§ 352,361; Reply, fn. 1063; C-PHB, fn. 1729; SoD, § 553; Rejoinder, fn. 1278; R-PHB, § 859; *supra*, § 585.

1494 Petrozuata AA, **C-1**, Sections 9.07(d), 1.01 (definition of Base Rate).

1495 Hamaca AA, **C-3**, Articles 14.3(d), 1 (definition of LIBOR).

1496 C-PHB, §§ 968-970.

1497 R-PHB, §§ 874-879.

1498 C-PHB, § 968.

1499 SoC, § 338.

1500 *Continental Casualty v. Argentina*, ICSID Case No. ARB/03/9, Award, 5 September 2008, **CLA-14**, § 309; *Suez, Sociedad General de Aguas de Barcelona, S.A. and Vivendi Universal, S.A. v. Argentine Republic*, ICSID Case No. ARB/03/19, Award, 9 April 2015, **CLA-67**, ¶ 65 ; *El Paso Energy International Company v. The Argentine Republic*, ICSID Case No. ARB/03/15, Award, 31 October 2011, **CLA-15**, ¶ 746; *Occidental Petroleum Corporation and Occidental Exploration and Production Company v. Republic of Ecuador*, ICSID Case No. ARB/06/11, Award, 5 October 2012, **CLA-18**, § 834.

ConocoPhillips OPEC award,[1501] on a decision rendered by the Venezuelan Superior Court for Civil, Banking and Commercial Matters,[1502] and on their legal expert, Prof. Mata Borjas. In particular, Prof. Mata Borjas states the following:

> Venezuelan law provides for pre- and post-award compound interest except in a small number of exceptional circumstances—such as credit card and home mortgage laws—that do not apply here. Compound interest is also payable by mutual agreement or by judicial decision. […] Venezuelan jurisprudence […] recognizes the award of compound interest pursuant to Article 530. Further, principles of full reparation under Venezuelan law require compound interest to be awarded to an injured party, to offset all of the losses caused by the wrongful conduct.[1503]

1002. In this regard, the Claimants argue that the foregoing denotes the "appropriateness of compound interest".[1504] They therefore submit: "all capitalization or interest awarded to Claimants should be subject to reasonable compounding".[1505]

1003. The Respondents, on the other hand, submit that, pursuant to Article 530 of the Venezuelan Commercial Code ("VCoC"),[1506] Venezuelan law allows compounding only in the two following situations: "(i) when the parties enter into an express agreement to capitalize interest after the interest has already been quantified, or (ii) when a judgment is rendered including interest, in which case interest will accrue on the entire amount of the judgment from the date of the judgment".[1507] According to the Respondents, neither of these two situations applies to the case at hand, and therefore only simple interest can be awarded.[1508] The Respondents notably rely on the reports of their legal expert, Prof. García Montoya and the authorities cited therein.[1509]

1004. The Tribunal agrees with the Respondents. First, the Tribunal finds that the investment arbitration awards relied upon by the Claimants are of no bearing to the present issue. As acknowledged by the Claimants themselves, the lodestar is

---

[1501] *Phillips Petroleum Company Venezuela Limited & ConocoPhillips Petrozuata B.V. v. Petróleos de Venezuela, S.A.*, ICC Case No. 16848/JRF/CA (C-16849/JRF), Final Award (henceforth "*ConocoPhillips OPEC Award*"), 17 September 2012, **CLA-17**, §§ 300, 307.

[1502] *Banco Latino v. Eduardo Manuitt Carpio*, Eighth Superior Court for Civil, Banking and Commercial Matters, 28 July 2008, **CLA-4.**

[1503] Mata Borjas ER II, § 62.

[1504] Reply, § 552.

[1505] Reply, § 552.

[1506] VCoC, **RLA-123**, Article 530.

[1507] R-PHB, § 874.

[1508] R-PHB, § 874.

[1509] García Montoya ER I, **RER-1**, §§ 147-154; García Montoya ER II, **RER-5**, §§ 75-80.

whether "Venezuelan law […] restrict[s] the Tribunal's power to award compound interest".[1510] Whether or not investment arbitration tribunals, applying international law, grant compounded interests, is of little relevance.

1005. Second, the Tribunal finds little guidance in the ConocoPhillips OPEC award. In their decision, the tribunal reasoned as follows:

> Claimants have requested the application of compound interests based on the main reasons that only compound interest would be in accordance with the principle of full compensation of damages, and that failure to grant compound interest would represent an unwarranted departure from current arbitral practice. In addition, neither Venezuelan law nor the ICC Rules would in any way fetter the Arbitral Tribunal's discretion in this regard.
>
> Respondent has not challenged Claimants' request for compound interests, nor has it objected to Claimant's calculation of such compound interest.
>
> […]
>
> After discussing the appropriateness of compound interest as calculated by Mr. Manuel Abdala, the majority of the Arbitral Tribunal found no justifiable reason to depart from the calculation method he adopted.[1511]

1006. The Tribunal thus notes that, contrary to the present case, the OPEC tribunal did not deal with a challenge by the responding party to the recognition of compound interest. It is perhaps for that reason that the content of Article 530 of the VCoC does not seem to have been properly considered. In this context, the OPEC tribunal's conclusion that Venezuelan law did not fetter its discretion to grant compound interest is, at best, of limited assistance.

1007. It follows that, as far as supporting authorities on domestic law are concerned, the Claimants' compound interest argument hinges on the *Banco Latino* case decided by the Venezuelan Superior Court for Civil, Banking and Commercial Matters.[1512] This case, however, runs in favor of the Respondents' position.

1008. While in *Banco Latino* the Court recognized the applicability of compound interest under Venezuelan law, it did so within the framework of Article 530 of the VCoC, which states as follows:

> Interest is not owed on interest as long as, after its calculation, it is not included in a new contract as a capital increase. It is also owed when by mutual

---

[1510] Reply, § 552.

[1511] *ConocoPhillips OPEC Award*, **CLA-17**, §§ 297-298, 300.

[1512] *Supra*, fn. 1502.

agreement, or by judicial decision, the balance is calculated including therein the accrued interest.[1513]

1009. As rightly pointed out by Prof. García Montoya, in *Banco Latino* the Court sanctioned compounded interest given that the parties had "mutually agreed to capitalize interest, and these were included in a new loan agreement, in accordance with the requirements of [the *first tranche* of] Article 530 of the Commercial Code".[1514] The factual considerations determining *Banco Latino* therefore correspond with the first of two situations mentioned above which, according to the Respondents, are the only scenarios whereby Venezuelan law allows compounding.[1515] In this regard, the Tribunal agrees with the Respondents that "*Banco Latino* does not support [the] Claimants' argument that compound interest should be awarded in this case, where the parties have not mutually agreed to compound interest".[1516]

1010. Prof. Mata Borjas' expert opinion does little to advance the Claimants' position on this point. In his first expert report Prof. Mata Borjas is silent on the matter of compound interest. It is only in his second expert report that Prof. Mata Borjas argues in favor of granting compound interest in light of: (i) Article 530 of the VCoC; and (ii) the principles of full compensation.[1517] Nevertheless:

i. When referring to how Venezuelan case law "recognizes the award of compound interest pursuant to Article 530" of the VCoC, the only authority given to that effect is precisely the *Banco Latino* case.[1518] As seen, however, *Banco Latino* is not favorable to the Claimants.

ii. No authority is provided accounting for the relevance of the principles of full compensation as grounds for granting compound interests, and rightly so: during the Hearing, Prof. Mata Borjas conceded that, as opposed to general principles of compensation, the "only legal basis that exists in Venezuela for

[1513] VCoC, **RLA-123**, Article 530 ("*No se deben intereses sobre intereses mientras que, hecha la liquidación de éstos, no fueren incluídos en un nuevo contrato como aumento de capital. También se deben cuando de común acuerdo, o por condenación judicial, se fija el saldo de cuentas incluyendo en él los intereses devengados*").

[1514] García Montoya ER I, **RER-1**, § 154; García Montoya ER II, **RER-5**, § 78; *Banco Latino v. Eduardo Manuitt Carpio*, Eighth Superior Court for Civil, Banking and Commercial Matters, 28 July 2008, **CLA-4**, pp. 6-8, 10.

[1515] *Supra*, § 1003.

[1516] R-PHB, § 875 (emphasis by the Respondents).

[1517] *Supra*, fn. 1503.

[1518] Mata Borjas ER II, fn. 90.

compound interest" is Article 530 of the VCoC.[1519] In any event, the Tribunal agrees with Prof. García Montoya that reliance on general principles with respect to interest seems incorrect. Indeed, the "criteria regarding compound interest" held by the Venezuelan Supreme Court appears to "take precedence over any argument regarding its applicability under the principle of integral reparation".[1520] In this regard, the Tribunal notes that the Respondents refer to at least two decisions by the Supreme Court suggesting that compounding interest is only permitted in the context of Article 530 of the VCoC;[1521] decisions whose relevance to the Respondents' case against compounded interest has not been questioned by the Claimants.

1011. Prof. Mata Borjas further submits that compound interests can also be "payable by […] judicial decision".[1522] The Tribunal understands this to be a reference to the second *tranche* of Article 530 of the VCoC.[1523] Yet, the Tribunal again fails to see the relevance of that provision in the case at hand.

1012. It is undisputed that Article 530 of the VCoC envisages two situations whereby compound interest is permitted under Venezuelan law, the second one of which is through a judicial decision ordering so.[1524] Presumably, the same can be said of an arbitral award. Still, as explained by Prof. García Montoya, that can only occur when "pre-judgment[/award] interest is included within the amount of the judgment[/award],

[1519] Tr. (Day 7) 1916:18-25 – 1927:1 (Mata Borjas). While Article 530 of the VCoC in principle only applies to loans, the Tribunal is persuaded by Prof. García Montoya that its extends to, generally, commercial matters in general (Tr. (Day 7) 1966:14 – 1968:1 (García Montoya)

[1520] García Montoya ER II, **RER-5**, § 79**.**

[1521] *Asociación Civil Deudores Hipotecarios de Vivienda Principal (ASODEVIPRILARA) v. Superintendencia de Bancos et al.*, Supreme Tribunal of Justice (Constitutional Chamber), Case No. 01-1274, Judgment, 24 January 2002, **App. GM-133**, p. 60 ("[T]he aforementioned Article 530 does not permit that the creditor and the debtor enter into agreements for the capitalization of interests prior to the quantification of the actual interests"); *Nohema Medina de Rojas v. Consejo de la Judicatura*, Supreme Tribunal of Justice (Political Administrative-Chamber), Case No. 13321, Judgment, 11 December 1 2001, **App. GM-135**, p. 9 ("[The judge] acted erroneously ab initio, when admitting a claim that was contrary to an express provision of the Law. […] Such prohibition arises from determining that in the complaint submitted […] one of the claims alleged by plaintiff consisted in charging interest on interest owed, that is, what the doctrina has characterized as *anatocismo*, which, according to Article 530 of the Venezuelan Commercial Code, applies only in the cases expressly provided therein, namely, when there has been a quantification of interests and these are included in a new agreement as an increase of capital, or when, by mutual agreement, or by judicial decision, the outstanding balance is determined including therein"); R-PHB, § 876.

[1522] *Supra*, fn. 1503.

[1523] *Supra*, fn. 1513.

[1524] *Supra*, § 1003.

in which case post-judgment[/award] interest may accrue on the full amount resulting from the judgment[/award]".[1525]

1013. Prof. García Montoya's foregoing explanation is not controversial. Indeed, during the Hearing, Prof. Mata Borjas acknowledged that a judgement/award can allow for compound interests only after the pre-judgement/award interests are deemed matured and incorporated as a principal amount in the said judgement or award.[1526] That, however, is not the Claimants' position in this arbitration. The Claimants very clearly request that "all capitalization or interest awarded", including those relating to historical cash flows, "should be subject to reasonable compounding […] on an annual basis".[1527]

1014. For the reasons set out above, the Tribunal is of the view that, under Venezuelan law, compound interest cannot be awarded in the present case. The Tribunal therefore determines that, pursuant to the Parties' agreement with respect to the interest rates applicable to the DA Claim,[1528] the Hamaca Project's historical yearly indemnifications accrue simple interest quarterly at 3-month LIBOR rate, while the Petrozuata Project's historical annual indemnifications accrue simple interest annually at 12-month LIBOR.[1529]

G. DISCOUNT RATE

1. The Claimants' position

1015. In order to bring future cash flows pertaining to the DA Claim back to present value (i.e., the date of valuation, namely, 27 May 2016),[1530] the Claimants argue in favor of adopting a discount rate of 15.2%. The Claimants arrive at this figure by using the following International Capital Asset Pricing Model (ICAPM) "building blocks" approach:[1531]

i. Establishing a base line risk-free rate of **2.11%**;

[1525] García Montoya ER II, **RER-5**, § 79.

[1526] Tr. (Day 7) 1927:3-21 (Mata Borjas).

[1527] Reply, § 552; C-PHB, § 969; *supra*, § 1002.

[1528] *Supra*, § 999.

[1529] C-PHB, Appendix F, § 35(b).

[1530] *Supra*, § 585.

[1531] C-PHB, § 875, 12, 17; Abdala ER I, **CER-3**, §§ 89-90, 106, 195, 207-208, 221; Abdala ER II, **CER-8**, §§ 17, 20, 213.

ii. Computing a 6.22% risk-factor reflecting the risks associated with an equity investment in the upstream crude oil industry in a developed economy like the United States (*i.e.*, industry risk premium) which, multiplied by an unlevered beta of 1.13 and added to the risk-free rate, yields an unlevered cost of equity for a U.S.-based upstream oil and gas project of **7%**; and

iii. Applying a country risk premium of **6.1%** to reflect the country-specific (i.e., Venezuela) risks to which the Projects would have been exposed in the but-for world.

1016. The Claimants justify the foregoing unlevered cost of equity approach ("unlevered CoE") as opposed to a weighted average cost of capital approach ("WACC"). They argue that "the indemnification amounts owing under the DA provisions are properly characterized as cash flows to equity holders, meaning that the discount rates for the DA provisions scenarios are based on the Projects' cost of equity, rather than the weighted average of the cost of equity and cost of debt, as reflected in the WACC".[1532]

1017. In view of this, the Claimants submit that their discount rate of 15.21% is reasonable, as it is consistent with: "(i) the rates used by the Project participants and their affiliates throughout their relationship; and (ii) the rates Respondents apply to their other hydrocarbon projects in Venezuela today".[1533]

1018. Regarding the former, the Claimants refer to a report prepared by the Petrozuata Project of January 2000,[1534] and a Financing Memorandum prepared by the Hamaca Project in August 2000,[1535] calculating a discount rate of 8.53% and 10% respectively. The Claimants also refer to a 2008 "document that Venezuela was compelled to produce in the ICSID Arbitration, […] bear[ing] the logos of PDVSA, the Government and the Ministry, [and] propos[ing] a discount rate range of 8% to 12% to value th[e] Projects".[1536] According to the Claimants, the said range was calculated during the negotiations regarding the Expropriation, i.e., at a time when the "Respondents'

[1532] C-PHB, fn. 1581; Abdala ER I, **CER-3**, fn. 36; Abdala ER II, **CER-8**, fn. 110, 162. The Tribunal notes that the Claimants and their quantum expert do adopt a WACC methodology for the calculation of the discount rate under the Willful Breach scenario, which results in a discount rate of 13.8% (C-PHB, § 875, fn. 1581).

[1533] C-PHB, § 878.

[1534] Project for Association PDVSA–Conoco, Petrozuata C.A., Revision of Descriptive Report (*Proyecto de Asociación, PDVSA-Conoco, Petrozuata C.A., Revisión de la Memoria Descriptiva*), January 2000, **C-80**, p.15.

[1535] Hamaca Confidential Preliminary Information Memorandum, Volume I, Morgan Stanley Dean Witter, August 2000, **C-83**, p. XII-1.

[1536] C-PHB, § 880.

incentive was to use as high a discount rate as possible to reduce the Projects' value".[1537]

1019. With respect to the alleged rates the Respondents currently apply to their other hydrocarbon projects in Venezuela, the Claimants refer to: (i) the 10% discount rate set in the 2008-2014 annual Consolidated Financial Statements for PDVSA and its subsidiaries;[1538] (ii) a discount rate of 8% determined in 2014 in the context of a greenfield and thus riskier project between PDVSA and foreign investors Eni and Repsol;[1539] and (iii) the 10% discount rate associated with the underdeveloped greenfield Junín 4 Block project also in the Orinoco Belt. This last project, the Claimants submit, is the product of a treaty between Venezuela and China to be developed through a joint venture between PDVSA and the Chinese National Petroleum Corporation ("CNPC").[1540]

1020. The Claimants further argue that their discount is also consistent with those adopted in other arbitration awards in comparable cases,[1541] such as *Occidental Petroleum* (applying a 12% discount rate),[1542] *Enron* (applying a 12.6% discount rate),[1543] and *Gold Reserve* (applying a discount rate of 10.09%).[1544]

1021. In view of the Respondents' proposed 27.7% discount rate,[1545] the Claimants note that such an "absurdly high" rate results from the miscalculation of their country risk premium, which is premised on the following three main interrelated errors:[1546]

i. First, the Respondents' quantum experts incorrectly consider the current near-default status of Venezuela's sovereign debt as a factor in the determination

[1537] C-PHB, § 881.

[1538] PDVSA, Consolidated Financial Statements for years 2008-2010, **C-304**, p. 84; PDVSA, Consolidated Financial Statements for years 2011-2013, **C-338**, p. 102; PDVSA, Consolidated Financial Statements for years 2012-14, **C-354**, p. 126.

[1539] Einstein Millán Arcia, PDVSA: Secretos del Proyecto Cardon IV – Campo Perla, SOBERANÍA, 14 July 2014, **C-343**, p. 2 (of PDF); PDVSA Presentation: Avances – Proyecto de Gas Rafael Urdaneta, Bloque Cardón IV, June 2014, **C-341**, pp. 2-3; C-PHB, § 884.

[1540] C-PHB, §§ 885-889.

[1541] C-PHB, § 891.

[1542] *Occidental Petroleum Corporation and Occidental Exploration and Production Company v. Republic of Ecuador*, ICSID Case No. ARB/06/11, Award, 5 October 2012 (henceforth, *Occidental Petroleum*), **CLA-18**, § 764.

[1543] *Enron Corporation, Ponderosa Assets, L.P. v. Argentine Republic*, ICSID Case No. ARB/01/3, Award, 22 May 2007 (henceforth, *Enron*), **CLA-61**, §§ 411-413.

[1544] *Gold Reserve, Inc. v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB(AF)/09/1, Award, 22 September 2014 (henceforth, *Gold Reserve*), **CLA-21**, §§ 840-842.

[1545] *Infra,* § 1023.

[1546] C-PHB, §§ 892, 895.

of the applicable country risk. According to the Claimants, this is misguided for the following two reasons. On the one hand, by "anchor[ing] their country risk premium on the […] present-day borrowing costs of the Venezuelan government", the Respondents perform an "actual" analysis as opposed to a "but-for analysis".[1547] On the other hand, there is little to no relation between the risk of Venezuela defaulting on its financial sovereign obligations and the country risk assignable to private, profitable, and financially stable commercial enterprises such as the Projects. While the Venezuela's 23% bond yield suggests market expectations that it will soon default on its loans, the Claimants refer to their quantum expert and assert that "the Projects were not, and have not been, anywhere close to near-default status. [T]he measure of the distress experienced by Venezuela, and reflected in the [sovereign debt spread], is not useful as a proxy to derive a country risk premium for the Projects".[1548]

ii. Second, the Respondents improperly "inflate" their country risk premium by accounting for Venezuela's "propensity to engage in types of unlawful conduct that are the subject of this arbitration".[1549] According to the Claimants, Venezuela attempted the same "gambit" in *Gold Reserve*,[1550] where the tribunal rightfully found that it was "inappropriate to increase the country risk premium to reflect the market's perception that a State might have a propensity to expropriate investments in breach of BIT obligations".[1551] The Claimants submit that holding otherwise would "reward violations of international law, and create an incentive for a State (or state companies acting in collusion with it) to take property in violation of its international obligations";[1552] a result that would be "irreconcilable with the basic principle that a party may not benefit from its wrongful conduct".[1553]

The Claimants distinguish *Gold Reserve* from other decisions relied upon by the Respondents, such as *Tidewater* and *Saint-Gobain*.[1554] In particular, the

[1547] C-PHB, § 896.

[1548] Abdala ER II, **CER-8**, §§ 102, 111.

[1549] C-PHB, § 904.

[1550] C-PHB, § 904.

[1551] *Gold Reserve,* **CLA-21**, § 840-842.

[1552] C-PHB, § 907.

[1553] C-PHB, § 910.

[1554] R-PHB, §§ 831- 832

Claimants submit that, *Gold Reserve*, unlike *Tidewater* and *Saint-Gobain*, concerned a confirmed unlawful expropriation of assets that had been invested in Venezuela during non-suspect times (i.e. in the mid-1990s, before the political and legal uncertainties associated with the ascendency of the Chávez government).[1555] Accordingly, it is *Gold Reserve*, and not *Tidewater* or *Saint-Gobain*, which serves as proper guidance to the Tribunal.

iii. Third, the Respondents' discount rate fails to account for the limited exposure of the Projects to the Venezuelan country risk. For instance, it ignores that the Projects: "(i) produced a commodity for which there is international demand; (ii) sold their products, and received their income, abroad in U.S. dollars; (iii) acquired critical inputs from international markets; (iv) used little local capital; (v) relied on infrastructure that was self-contained and largely insulated from local unrest or disruptions; and (vi) had legal protections designed to reduce their exposure to adverse governmental actions".[1556]

1022. Furthermore, the Claimants submit that the Respondents' discount rate calculations are premised on the following out-of-context statements. In particular:

i. The Respondents point to documents allegedly indicating that the Claimants have envisaged high discount with respect to the Projects themselves or other unspecified projects, such as the 20% rate identified by Mr. Robert McKee (former Conoco's Executive Vice President for Exploration and Production) at the time Conoco decided to participate in the Petrozuata Project in the mid-1990s,[1557] and by Mr. Matthew Fox (who held the same position that had been held by Mr. McKee) in 2013 with respect to projects in Canada.[1558] However, those rates in fact corresponded to an internal rate of return ("IRR"), which serves a distinct purpose.[1559]

ii. The Respondents refer to a public hearing of the Legislative Budget and Audit Committee of the Alaska State Legislature where ConocoPhillips' Chief Economist, Ms. Marianne Kah, and the late Dr. Anthony Finizza, one of

[1555] C-PHB, §§ 908-913.

[1556] C-PHB, § 914.

[1557] *ConocoPhillips Petrozuata B.V. et al. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/30, Transcript of the Hearing on Jurisdiction, Merits and Quantum held on 31 May – 12 June, 21 July and 23 July 2010, **R-74**, pp. 731-732.

[1558] *ConocoPhillips Analyst Meeting*, *Thompson Reuters StreetEvents*, 28 February 2013, **App. BF-131**, p. 7.

[1559] C-PHB, §§ 919-924.

Venezuela's damages experts at Econ One during the merits phase of the ICSID Arbitration, identified certain rates in relation to a 3640-mile pipeline to transport natural gas from Alaska to Chicago. In particular, the Respondents stress that in Ms. Kah's opinion 12% would be an appropriate discount rate for "energy projects in the United States"; a figure that she considered would be "higher" elsewhere due to the "risks involved".[1560] The Respondents also highlight Dr. Finizza's opinion that a 25% discount rate would be appropriate for projects in Venezuela,[1561] meaning that an investor would require a threshold IRR above said "risk-premium" to invest in Venezuela.[1562] However, in the Claimants' view the pipeline discussed before the Alaskan State Legislature (which has not yet been built) is not comparable with either of the Projects because, in addition to being a different class of project, it concerned the "largest, most technically complex and most expensive construction projects in the world, and thus one of the riskiest".[1563] The Claimants also argue that Dr. Finizza's comments are inapposite as, "[a]t most, they stand for the unremarkable proposition that a project in Venezuela faces higher country risk than would an identical project in the United States".[1564]

iii. The Respondents refer to an expert report submitted by ConocoPhillips in a commercial ICC arbitration against PDVSA, PDVSA Petróleo, and PDVSA subsidiaries, proposing a discount rate between 20% and 30% with respect to the valuation of an oil refinery in Texas.[1565] However, as a procedural matter, the Claimants "object to Respondents' introduction of that expert report—which has been sealed by a U.S. Federal Court in a case in which affiliates of PDVSA, represented by Curtis Mallet, are involved—into this proceeding, and renew their request that it be struck from the record".[1566] In any event, the

[1560] Alaska State Legislature, Legislative Budget and Audit Committee, Minutes of Meetings held on 14-15 June 2006, **App. BF-129**, pp. 123-124.

[1561] Dr. Anthony Finizza, Consultant, Econ One Research, Inc., Presentation, *Presentation on Alaska Gas Pipeline Project to Alaska State Legislative Budget & Audit Committee: Investment Decision-Making by Oil and Gas Companies*, 31 August 2005, **App. BF-132**, slide 13.

[1562] Alaska State Legislature, Legislative Budget and Audit Committee, Minutes of Meetings held on 14-15 June 2006, **App. BF-129**, p. 43.

[1563] C-PHB, §§ 928-929.

[1564] C-PHB, §§ 930.

[1565] *ConocoPhillips Petrozuata B.V. et al. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/30, E-mail from Counsel for Respondent to the Tribunal, of 10 August 10 2012 (attaching *PDV Sweeny, Inc. et al. v. ConocoPhillips Company and Sweeny Coker Investor Sub, Inc.*, ICC Case No. 16982/JRF/CA (C-17336/JRF), Report Concerning the Value of Merey Sweeny L.P. by Garfield L. Miller, III, Aegis Energy Advisors Corp. Of 6 August 2012) (henceforth, *Merey Sweeney* report), **R-178**, pp. 4, 7, 14-15 (of the report).

[1566] C-PHB, § 931.

Claimants argue that the *Merey Sweeney* report dealt with a project that "had specific and atypical characteristics, such as lack of control, lack of strategic upside, and lack of liquidity. In particular, the refinery components at issue were captured within a large refinery complex that the joint venture did not own", making it "essentially unmarketable to third parties". [1567]

iv. The Respondents rely on the *Himpurna*,[1568] *Lemire*,[1569] and both the *Mobil ICC*[1570] *and Mobil ICSID*[1571] cases, applying discount rates of about 18%. However, neither of these decisions should guide the Tribunal given that, *inter alia*, said cases either: (i) entailed particular factual circumstances not applicable to the case at hand; (ii) concerned nascent and/or greenfield projects that were thus exposed to higher operational and construction risks; (iii) confused the notion of IRR with that of discount rate; or (iv) based their discount rate calculation on the project's CoE as opposed to the project's WACC, which generally yields a higher discount rate; (v) were confronted with what was deemed unreasonable discount rate proposals by the respective claimants, and therefore left with no alternative but to adopt the high discount rate submitted by the respondents; (vi) did not undertake an independent analysis of the applicable discount rate in order to avoid inconsistent outcomes between similar cases; and/or (vii) rendered their decision in the context of a lawful expropriation.[1572]

2. The Respondents' position

1023. Also adopting a "building blocks" approach considering ICAPM, but also other methods "that are free from the strictures of that theory's assumptions",[1573] the

[1567] C-PHB, §§ 932-933.

[1568] *Himpurna California Energy Ltd. v. PT (Persero) Perusahaan Listruik Negara*, UNCITRAL, Final Award dated May 4, 1999 (Excerpt), in YEARBOOK COMMERCIAL ARBITRATION 2000, VOL. XXV, 11 (A. Jan van den Berg ed., Kluwer Law International 2000)(henceforth, *Himpurna*), **RLA-65**.

[1569] *Joseph Charles Lemire v. Ukraine*, ICSID Case No. ARB/06/18, Award, 28 March 2011 (henceforth, *Lemire*), **RLA-68**.

[1570] *Mobil Cerro Negro, Ltd. v. Petróleos de Venezuela, S.A. and PDVSA Cerro Negro, S.A.,* ICC Case No. 15416/JRF/CA, Final Award, 23 December 2011 (henceforth, *Mobil ICC* case), **CLA-16**,

[1571] *Venezuela Holdings, B.V. et al. v. The Bolivarian Republic of Venezuela,* ICSID Case No. ARB/07/27, Award, 9 October 2014 (henceforth, *Mobil ICSID* case), **RLA-2**.

[1572] C-PHB, §§ 934-944.

[1573] Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** § 357. The other non ICAPM methods used by the Respondents' quantum experts include other country risk rating models, discount rates published by the Society of Petroleum Evaluation Engineers for project evaluation and transactions, and the Texas Comptroller Public Accounts for tax assessment (Brailovsky & Flores ER I, **RER-3**, § 247(a), 362-366, 247(c), 369-376, 247(d), 377-379).

Respondents and their quantum experts argue in favor of a WACC or discount rate for the DA scenario of 27.7%.[1574] They arrive at this figure by:[1575]

i. Establishing a base line **2.1%** risk-free rate;

ii. Computing a **5.8%** industry risk premium;

iii. Adding a **17.8%** country risk premium;

1024. Supplementing the above figures with a **2.0%** liquidity premium accounting for an estimate discount for lack of marketability ("DLOM").

1025. The Respondents opt for a WACC approach, as opposed to an unlevered CoE analysis, given their disagreement with the Claimants' assumption that, under the DA provisions, "the yearly indemnification amounts owing to Claimants are tantamount to a stream of equity cash flows to Claimants, which ought to be paid by the state-owned equity holder in each Project".[1576] According to the Respondents' quantum experts, the valuation with respect to the AAs (be it under the Willful Breach Claim or the DA Claim) must respond to the "correct fair market value of the projects" vis-à-vis any "prospective arm's-length buyer of the Projects".[1577] Hence, as far as the discount rate applicable to future cash flows is concerned, there are no reasons to make distinctions between the Willful Breach and DA scenarios.

1026. In light of the above, the Respondents contend that their 27.7% discount rate is appropriate, as the only one consistent with: (i) "those of other tribunals in cases involving the very same nationalization as is at issue here;[1578] (ii) the relation between the notions of IRR and discount rate;[1579] and (iii) the statements made by Claimants'

[1574] R-PHB, § 822; Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** § 347.

[1575] Brailovsky & Flores ER I, **RER-3**, § 230; Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** Figure 11, Table 34. Further to Mr. Brailovksy's and Mr. Flores' indications, the Tribunal notes that the details in Figure 11 "may not add to total due to rounding" (Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** fn. 774). Indeed, Figure 11 refers to a 2.1% risk-free rate, a 5.7% industry risk premium, a 17.8% country risk premium, and a 2.0% liquidity premium, which adds to a discount rate of 27.6%, not 27.7%. Given that Mr. Brailovsky and Mr. Flores do not seem to disaggregate their 27.7% discount rate into the same categories elsewhere in their Consolidated ICSID Report, for the sake of consistency the Tribunal refers to a 5.8% industry risk premium as opposed to the 5.7% industry risk premium as in Figure 11. This adjustment in any event has no bearing on the Tribunal's final determination on discount rate. This is so because, save for certain exceptions (*infra,* § 1051), the Tribunal shall decide on the applicable discount rate as a whole (*infra,* § 1052).

[1576] Abdala ER I, **CER-3**, fn. 36; Abdala ER II, **CER-8**, fn. 110, 162; *supra*, § 1016.

[1577] Brailovsky & Flores ER I, **RER-3**, § 384.

[1578] R-PHB, § 823.

[1579] Rejoinder, §§ 577-579.

own representatives and the positions taken by Claimants, their experts and their counsel in other proceedings".[1580]

1027. In relation to the first point, the Respondents rely, chiefly, on the *Mobil ICC* and *ICSID cases* (both adopting a discount rate of 18%),[1581] *Tidewater* (considering a country risk premium of 14.75% to be "reasonable" and "conservative" for Venezuela in 2009),[1582] and *Saint-Gobain* (setting a nominal discount rate of 19.88%).[1583]

1028. In particular, the Respondents contend that it is indeed appropriate to calculate a country risk premium commensurate to the political risk of doing business in a particular state – an analysis that may entail a but-for scenario accounting for the risk of being expropriated. Such an approach, the Respondents submit, must not be misconstrued as allowing States to benefit from their own wrongdoing, it simply represents the assessment that a hypothetical buyer would undertake when determining the amount it would be willing to pay for the asset in question at a particular point in time.[1584] The consideration of expropriation risk thus responds to an economic question that is distinct from that of liability resulting from the issuance of certain State measures.[1585]

1029. With respect to the Claimants' attempt to differentiate between the notions of IRR and discount rate, the Respondents submit that "it is elementary that the minimum expected IRR or "hurdle rate" that an investor requires in order to invest in a project is precisely equivalent to the discount rate".[1586] According to the Respondents, the "connection between minimum IRR or hurdle rate, on the one hand, and discount rate, on the other, […] is also well established in all literature on the subject".[1587]

1030. In this context, the Respondents submit that it is "insultin[g]" for the Claimants to argue that the *ICC Mobil* tribunal misunderstood the distinction between discount rate

---

1580 R-PHB, § 823.

1581 *Mobil ICC* case, **CLA-16**, § 777; *Mobil ICSID* case, **RLA-2**, § 368.

1582 *Tidewater Investment SRL and Tidewater Caribe, C.A. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/10/5, Award, 13 March 2015 (henceforth, *Tidewater*), **RLA-069**, §§ 190, 197.

1583 *Saint-Gobain Performance Plastics Europe v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB/12/13, Decision on Liability and the Principles of Quantum, dated 30 December 2016 (henceforth, *Saint-Gobain*), **RLA-147**, § 758.

1584 *Himpurna*, **RLA-65**, § 358, 364; R-PHB, §§ 821, 829.

1585 *Saint-Gobain*, **RLA-147**, § 717.

1586 Rejoinder, § 577.

1587 Rejoinder, § 578.

and IRR.[1588] Referring to the position adopted by Venezuela in the ICSID Arbitration, the Respondents argue:

> First, Claimants criticize the ICC tribunal, consisting of three distinguished and experienced international arbitrators, for not understanding the discount rate issue, but the fact is that the tribunal had before it the extensive expert reports and live testimony of four accomplished discount rate experts, including Respondent's two experts in this case, and understood the issue quite well. Claimants, on the other hand, can only fall back on their mantra of "full compensation" under *Chorzów Factory*, which says nothing about what an appropriate discount rate to arrive at full compensation would be in this case. Claimants are the ones who misunderstand what the ICC tribunal was doing, which obviously was to select a discount rate to obtain the present value of future cash flows, exactly the exercise that this Tribunal would be performing if the claim for compensation for the 2007 nationalization were to survive the jurisdictional objections.
>
> Claimants confuse a number of concepts, including IRR [internal rate of return] and hurdle rate, ignoring their relationship to the concept of market value and the basic issue of how a "willing buyer" would go about calculating the amount it would be willing to pay in an acquisition of an oil property of the type at issue in this case. The actual IRR of a particular project is not, as Claimants seem to think, what the ICC tribunal relied on. Nor is it what we have argued in this case. But the minimum expected IRR a buyer would demand in determining whether to enter into the project, also known as the "hurdle rate", is of course relevant. As all the dictionary definitions of hurdle rate make clear, if a project is not expected to yield an IRR at least equal to the hurdle rate, the company will not invest. One is supposed to jump over a hurdle, not crawl underneath. While Claimants repeatedly refer to what a willing buyer would do, they have never been able to explain why a willing buyer would be willing to pay anything to invest in a project that yields a return less than the minimum return it requires.
>
> Our experts referred to historical profitability as one of four submethods of calculating a discount rate, all of which ended up in the 16.3 to 22.5% range, with the historical submethod actually yielding the lowest rate. If our experts had taken only the latter, the recommended discount rate would have been 21.7% instead of 19.8%. The relevance of the historical data was to show the kind of returns that companies in the industry, including these Claimants, expect from their projects, which is relevant in determining the hurdle rate prospective buyers would likely use in deciding whether to invest in the projects at issue in this case. […][1589]

1031. The Respondents further argue that the Claimants' own representatives understood well the reciprocity between these two concepts when making various statements unfavorable to the Claimants' proposed discount rate.[1590] In this regard, the Respondents point to how Mr. McKee acknowledged that Conoco's hurdle rate for the Petrozuata Project was 20%:

[1588] R-PHB, § 826.

[1589] *ConocoPhillips Petrozuata B.V. et al. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/30, Letter from Counsel for Respondent to the Tribunal, 18 March 2012, **R-181**, pp. 2-3.

[1590] *Supra*, fn. 1580.

> [W]hen this Project was approved, as I recall, it was approved at about a 20 percent IRR, which is about the minimum that I or the DuPont Board or Conoco or other Conoco Management would have tolerated for an investment this large, so concentrated, and in the place where it was, in the products, the business products that we were going. […] [T]hat is more or less the hurdle rate we would demand for a project that has this degree of variable risk attached to it.[1591]

1032. The Respondents submit that Mr. McKee's understanding that there is indeed a relation between the notions of IRR and discount rate was confirmed by Mr. Jeff Sheets ("another senior executive testifying for the ICSID Claimants"),[1592] who stated the following:

> **Q.** Okay. I'm confused by this notion of IRR in relationship with the discount rate. Help me out on this. Are you telling this Tribunal that there is no relationship between what we call in the industry a "hurdle rate" and the discount rate? Is that what your testimony is?
>
> **A.** No, I think there is – when we do a project evaluation, we will look at all the information that we have; and, if we are making a capital investment, we will determine what kind of return we would get on that capital investment, and that's what we refer to as the "internal rate of return."
>
> **Q.** Okay. Mr. McKee was saying that he would demand, as a minimum, a 20 percent return in order to buy into this Project, let's say; is that fair?
>
> **A.** That's what his testimony says.
>
> **Q.** That's what his testimony says. Now, if this Tribunal were to use a 10 percent discount rate, it would come up, if it ever got to that point, with a higher value than if you would use a 19 percent discount rate; isn't that correct?
>
> **A.** That's correct. [1593]

1033. According to the Respondents, Mr. Fox took a similar view when, in his capacity as Conoco's Executive Vice President for Exploration and Production in 2013, he referred to the "rate of return for unconventional oil programs in Western Canada",[1594] stating: "[a]ll of these projects have rates of return above 20%. We're not going to invest in them unless they do".[1595] For the Respondents, were the foregoing projects

[1591] *ConocoPhillips Petrozuata B.V. et al. v. The Bolivarian Republic of Venezuela*, ICSID Case No. RB/07/30, Transcript of the Hearing on Jurisdiction, Merits and Quantum held on 31 May – 12 June, 21 July and 23 July 2010, **R-74**, pp. 731-732.

[1592] R-PHB, § 839.

[1593] *ConocoPhillips Petrozuata B.V. et al. v. The Bolivarian Republic of Venezuela*, ICSID Case No. RB/07/30, Transcript of the Hearing on Jurisdiction, Merits and Quantum held on 31 May – 12 June, 21 July and 23 July 2010, **C-381**, pp. 1696-1697.

[1594] R-PHB, § 840.

[1595] *ConocoPhillips Analyst Meeting*, *Thompson Reuters StreetEvents*, 28 February 2013, **App. BF-131**, p. 7.

in Venezuela, "the country risk premium would drive the discount rate to be used in project evaluation considerably higher".[1596]

1034. The Respondents further point to a presentation published by Moyes & Co., whose president, Mr. Christopher Moyes, appeared as "one of the ICSID Claimants' experts".[1597] In its presentation, Moyes & Co indicates that the oil industry "appear[s] to accept that a 20-30% Expected Rate of Return in Acceptable".[1598]

1035. The Respondents also rely on the declarations made by Ms. Kah and Dr. Finizza during a 2006 public hearing of the Legislative Budget and Audit Committee of the Alaska State Legislature. In particular, the Respondents point to how, in his 2005 presentation prior to the public hearing, Dr. Finizza:

> […] started by explaining that "[p]rojects need to be evaluated at the risk-adjusted cost of capital, which may be above the Weighted Average Cost of Capital," and that a project is made riskier by "Uncertainty," "Political risk" and "Economic risk." He went on to distinguish between the expected IRR of a project and the "threshold rate of return" required to undertake an investment (or the "hurdle rate"), and explained that a threshold rate of return of 12% to 15% would be appropriate for a project that was "without significant risk factors." Dr. Finizza then referred to discount rates that would have been appropriate as of 2005 for hypothetical projects in various countries, and stated that a 25% discount rate would be appropriate for an oil project in Venezuela.[1599]

1036. The Respondents then refer to Dr. Finizza's responses during the examination of his presentation before the Alaska State Legislature, where he confirmed "his view that the appropriate risk-adjusted discount rate for an oil project in Venezuela in 2005 would be 25%, meaning that an investor would require a premium above the rate of return required in less risky countries to invest in Venezuela".[1600]

1037. Turning to Ms. Kah's declarations during the same public hearing, the Respondents submit that her view confirms that a 12% to 15% IRR would be necessary for an energy project in the United States. As such, "[f]or a project in a developing economy with a country risk rating like that of Venezuela, the required return would be much

---

[1596] R-PHB, § 840.

[1597] R-PHB, § 841.

[1598] Moyes & Co., Presentation, *Negotiation of Host Government Instruments in Emerging Markets and Interactions with NOC*, 2013, *available at* www.moyesco.com, **R-239**, **Slide 5**

[1599] R-PHB, § 843.

[1600] R-PHB, § 844; Dr. Anthony Finizza, Consultant, Econ One Research, Inc., Presentation, *Presentation on Alaska Gas Pipeline Project to Alaska State Legislative Budget & Audit Committee: Investment Decision-Making by Oil and Gas Companies*, 31 August 2005, App. BF-132, slides 4, 8, 13; Alaska State Legislature, Legislative Budget and Audit Committee, Minutes of Meetings held on 14-15 June 2006, App. BF-129, p. 43.

higher, which was precisely the point of Dr. Finizza's presentation […].[1601] In particular, Ms. Kah opined:

> First I wanted to say that companies really do look at a range of measures; we don't look at one measure. And IRR is a very important measure that we take very seriously[…]. So it's very important that we look at return on capital employ[ed] and make sure we don't invest in a project that will have such a low return that it will dilute our return on capital employed. We also, of course, do look at net present value. […] <u>Our industry doesn't necessarily use the 10 percent discount rate. And I think you even presented some material yesterday indicating that a U.S. risk discount rate was more like 12 percent, and that's for the U.S. in general. If you looked at the energy industry it would probably be higher than that in terms of the risk involved in energy projects in the United States.</u>[1602]

1038. In any event, the Respondents offer evidence directly discussing the issue of discount rate allegedly in support of their now proposed 27.7% discount rate, such as: (i) a table produced by IHS Global Insight, "a well-known consulting firm in the oil industry",[1603] calculating discount rates adjusted for country risk in Venezuela ranging between 20.30% (in 2005) and 22.79%(in 2009);[1604] and (ii) the *Merey Sweeney* report, involving the valuation of a refinery in Texas, in which the ConocoPhillips expert argued for a discount rate between 20% and 30%.[1605] In these circumstances, "if this Tribunal were simply to take the average of the discount rates – or "hurdle rates" – proposed by ConocoPhillips and its experts for oil projects and adjust them to the Projects in Venezuela, it would be using a discount rate at or higher than the level proposed by Respondents' experts, and that would be even including the indefensibly low discount rate of Claimants' expert here in the average".[1606]

1039. With respect to relevant case law, the Respondents contend that, contrary to the Claimants' allegations, the *Mobil ICC* tribunal had other alternatives than to simply "accept the respondents' proposed rate because the claimant had been […]

[1601] R-PHB, § 848.

[1602] Alaska State Legislature, Legislative Budget and Audit Committee, Minutes of Meetings held on 14-15 June 2006, **App. BF-129**, pp. 123-124 (emphasis and brackets added by the Respondents).

[1603] R-PHB, § 849.

[1604] IHS Global Insight, *Country Risk Adjusted Discount Rate (Venezuela)*, 25 January 2010, **App. BF-192**, p. 2; R-PHB, §§ 850-853.

[1605] R-PHB, §§ 854-856; *ConocoPhillips Petrozuata B.V. et al. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/30, E-mail from Counsel for Respondent to the Tribunal, of 10 August 10 2012 (attaching *PDV Sweeny, Inc. et al. v. ConocoPhillips Company and Sweeny Coker Investor Sub, Inc.*, ICC Case No. 16982/JRF/CA (C-17336/JRF), Report Concerning the Value of Merey Sweeny L.P. by Garfield L. Miller, III, Aegis Energy Advisors Corp. of 6 August 2012) (henceforth, *Merey Sweeney* report), **R-178**, pp. 4, 7, 14-15 (of the report).

[1606] R-PHB, § 857.

unreasonable" in that regard.[1607] Referring to their position in the ICSID Arbitration, the Respondents submit:

> Perhaps the most remarkable argument Claimants make about the *Mobil* [ICC] case is that the tribunal selected the lowest of three rates proposed by respondents there because the rate proposed by Mobil was so low as to be unacceptable and the tribunal felt it had no choice but to accept the next most reasonable rate before it. This bit of tribunal psychoanalysis would be interesting but for one fact which Claimants overlooked in the decision. Respondents in *Mobil* did indeed present three alternative rates to the ICC tribunal for illustration purposes: 16%, 18% and 19.8%. Thus, contrary to Claimants' misstatement, the rate adopted by the tribunal, 18%, was not the lowest of the three presented by respondents. Tribunal psychoanalysis is a difficult exercise even when based on actual facts; it crosses into the realm of fantasy when based on imaginary facts. Moreover, as Claimants' counsel is well aware, arbitral tribunals do not always limit themselves to the rates proposed by the parties. The 19% selected in the *Himpurna* case and the 21% selected in *Patuha* were not proposed by either side in those cases. The ICC tribunal in *Mobil* obviously selected 18% not because it was the lowest proposal on the table, but rather because it considered that to be an appropriate rate.[1608]

1040. Similarly, the Respondents argue that the Claimants err in asserting that the *Mobil ICSID* tribunal did not undertake an independent analysis with respect to the applicable discount rate in order to avoid inconsistent decisions. Indeed, albeit acknowledging that "other arbitral tribunals [had] adopted discount rates in [comparable circumstances] ranging from 18.5% to 21%",[1609] after "examining voluminous submission and expert reports and hearing the expert testimony on the discount rate issue",[1610] the Mobil ICSID tribunal concluded that "a 18% discount appropriately reflec[ed] the existing risks in [that] case".[1611]

1041. *A contrario*, the Respondents submit that the case law relied upon by the Claimants is inapposite:

> Claimants have cited a number of other decisions applying discount rates in the 10 to 12% range. […]. None of the tribunals referred to by Claimants was presented with the discount rate analysis in the two *Mobil* cases, in *Tidewater* and in *Saint-Gobain*, and three of those cases did not even involve oil-producing projects anywhere, much less in Venezuela. With respect to *Occidental v. Ecuador*, the tribunal's decision indicates that there was no real dispute over the discount rate, even though it is impossible to understand how a discount rate for an oil project in Ecuador could be lower than that for an oil project in Venezuela. […]. With respect to *Gold Reserve*, which involved a gold mining project in Venezuela, the tribunal adopted in part the approach of the

[1607] R-PHB, § 827.

[1608] *ConocoPhillips Petrozuata B.V. et al. v. The Bolivarian Republic of Venezuela*, ICSID Case No. ARB/07/30, Letter from Counsel for Respondent to the Tribunal, 18 March 2012, **R-181**, pp. 3-4.

[1609] *Mobil ICSID*, **RLA-2**, § 367.

[1610] R-PHB, § 828.

[1611] *Mobil ICSID*, **RLA-2**, § 368.

> claimant's expert, whereas that same expert's approach was the one roundly rejected in the *Tidewater* case. […] It may also be noted that one of the arbitrators in the *Tidewater* case, who adopted a discount rate of around 26% after seeing and hearing the submissions of Mr. Brailovsky and Dr. Flores, was also an arbitrator in *Occidental*. Suffice it to say that facts are important, and that the precedents most directly relevant to this case both on the facts and on the principles adopted are the *Mobil* cases, *Tidewater* and *Saint-Gobain*.[1612]

3. Analysis

a. *Preliminary matters*

1042. In consideration of the above arguments and allegations, the Tribunal will make a first observation: it agrees with the Claimants' and their quantum expert's assumption that the indemnification amounts owing under the DA provisions are properly characterized as: (i) "cash flows to equity holders";[1613] or (ii) a "stream of equity cash flows to Claimants, which ought to be paid by the state-owned equity holder in each Project".[1614]

1043. Indeed, the Willful Breach Claim and the DA Claim are considerably different in terms of their nature and implications. Indeed, the former stems from general applicable law and thus requires meeting all the elements of civil liability, while the latter consists of the application of specific contractual provisions previously agreed upon by the Parties. Therefore, contrary to what the Respondents' quantum experts suggest,[1615] it cannot be that both scenarios must be discounted on the same basis. The Tribunal therefore finds that the Claimants' preference for the unlevered CoE approach used to calculate their proposed discount applicable to their DA Claim (over the WACC approach employed to the same effect vis-à-vis their Willful Breach Claim) is warranted.[1616]

1044. The previous finding, however, does not dispose of the matter at hand in favor of either Party. On the one hand, it is common ground that the purpose of a discount rate is to estimate the net present value of future cash flows.[1617] On the other hand, regardless of the method used, both Parties essentially use the same inputs to arrive at their respective discount rates, i.e., the computation of a risk-free rate, an industry

---

[1612] R-PHB, fn. 1766.

[1613] C-PHB, fn. 1581; Abdala ER I, **CER-3**, fn. 36; Abdala ER II, **CER-8**, fn. 110, 162.

[1614] Abdala ER I, **CER-3**, fn. 36; Abdala ER II, **CER-8**, fn. 110, 162.

[1615] Brailovsky & Flores ER I, **RER-3**, § 384.

[1616] *Supra*, fn. 1532.

[1617] SoC, §§ 320-321; SoD, §§ 505, 510.

risk premium, and a country risk premium. Hence the Tribunal must still determine the appropriateness of the Parties' calculations.

1045. In this regard, the Tribunal notes that the Claimants argue in favor of a discount rate of **15.21%** (comprised of a 2.11% risk-free rate, a 6.22% industry risk premium multiplied by a 1.13 unlevered beta, and a 6.1% country risk premium).[1618] The Respondents in turn argue in favor of a discount rate of **27.7%** (comprised of a 2.1% risk-free rate, a 5.8% industry risk premium, a 17.8% country risk-premium, and a 2.0% DLOM).[1619]

1046. The overarching contentions in terms of the applicable discount rate are thus two-fold. First, to the extent that the Claimants do not account for it, the Respondents' 2.0% DLOM. Second, the considerable difference between the Parties' estimation of the country risk premium.

b. *The 2.0% discount for lack of marketability (DLOM)*

1047. The Respondents do not directly address the 2.0% DLOM in their written submissions. Rather, the issue is mainly dealt with through their quantum experts. The same goes for the Claimants.

1048. The discussion between the Parties' experts on this point is summarized in Mr. Brailovsky's and Mr. Flores' second expert report:

> The Second Abdala Report argues that DLOMs do not apply when the compensation formulas are used because, in this case, the claim is based "on the specific formulas in the Projects' Association Agreements, and not on the transactional value of the Projects." On the contrary, we maintain that the scenario which uses the compensation formulas represents the true "transactional value" of the Projects, insofar as any hypothetical third party buyer will take them fully into account when establishing a bid price. Dr. Abdala also argues that […] DLOMs do not apply due to the "Projects' nature as crude oil producers, as the stability of the Projects' cash flows and their economic fundamentals ensures minimal exit costs for a willing seller." Note that Dr. Abdala uses the word "minimal" which is not the same as "zero." To the extent that he is accepting that there are exit costs, he should have tried to estimate them in order to arrive at a truly fair market value for the Projects, but he simply decided not to do so. The discussion should have been whether our measurement of DLOM is accurate, not about whether it is applicable.
>
> Dr. Abdala accepts that DLOMs are used in "distress" cases, and that the Projects are not distressed. He may be right that the Projects are not

[1618] C-PHB, § 875. The Tribunal in any event notes that the Claimants just broadly acknowledge that Mr. Abdala calculated the discount rate applicable to their DA Claim pursuant to an unlevered CoE method. The Claimants' written submissions are by-and-large dedicated to argue of the 13.8% calculated pursuant to the WACC approach.

[1619] *Supra*, fn. 1575.

> distressed, but it is wrong to say that DLOMs only apply in such cases. They apply whenever there is a lack of marketability, which is a condition external to the assets to be valued. Thus, a distressed company whose stock trades on the New York Exchange may easily sell, albeit at a very low price. In contrast, a perfectly healthy company may have difficulties in finding a buyer if it is located in an oligopolistic market where there are few buyers or when government authorizations are required. And in fact, given the complex nature of the Projects, not many companies exist in the world able and willing to participate in them. Moreover, recall that the Projects were authorized at the highest level by special authorizations, and therefore selling them would inevitably attract much government scrutiny.[1620]

1049. The Tribunal cannot agree with the position taken by the Respondents' quantum experts. Whether or not the DA formulae represent the true transactional value of the Projects, the Tribunal finds that a DLOM is not justified on the mere basis that the Projects might face "minimal" exit costs. This is particularly so given that:

   i. The notion of "marketability" relied upon by Mr. Brailovsky and Mr. Flores is precisely defined as "the ability to quickly convert property to cash at **minimal cost**".[1621] This suggests that exit costs, especially if they are minimal, may not necessarily warrant adjustment through a DLOM.

   ii. Mr. Brailovsky's and Mr. Flores' 2% DLOM is not based on data reflecting the particular factual circumstances of the Projects. At most, their volatility coefficient (one of the assumptions necessary for calculating DLOMs) is defined in terms of, *inter alia*, the Venezuelan stock market;[1622] a reference that is unlikely to serve as an adequate proxy for privately traded oil extraction undertakings in the Venezuelan Orinoco Belt. The remaining assumptions and fundamentals of the proposed DLOM are of a theoretical nature and appear to share no straightforward connection with the Projects.[1623] As such, the Tribunal finds them exceedingly speculative and generic. In these circumstances, being the Party alleging the need to apply a DLOM, the Respondents bear the burden of proof: a DLOM rate cannot be granted simply because the Claimants' quantum expert did not provide an alternative rate.

[1620] Brailovsky & Flores ER II, **RER-7**, §§ 210-211.

[1621] Brailovsky & Flores ER I, **RER-3**, § 347 (emphasis added); Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** § 500.

[1622] Brailovsky & Flores ER I, **RER-3**, § 353; Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** § 509. The Tribunal acknowledges that, according to Mr. Brailovsky and Mr. Flores, basing their volatility coefficient partly on publicly traded stocks would tend to underestimate the true volatility of the Projects. Such an assumption, however, lacks support: neither the Respondents nor their quantum experts have provided evidence accounting for a relation between privately traded companies and increased price volatility.

[1623] Brailovsky & Flores ER I, **RER-3**, §§ 345-356; Brailovsky/Flores ICSID Consolidated Report, **App. BF-406,** §§ 498-509.

1050. The Tribunal further finds Mr. Brailovsky's and Mr. Flores' assertion that DLOMs apply both to distressed and perfectly healthy companies (the latter when placed in an oligopolistic market with few potential buyers or when government authorizations are required) to be unsubstantiated. As noted by Mr. Abdala, the Respondents' quantum experts "cite studies by O'Hara and Abbott to support the inclusion of a DLOM in the discount rate. The aspect of illiquidity that is discussed in these studies, however, mostly relates to assets in distress, and transaction costs. This is inapposite to the valuation of the Projects, because the Projects were not in distress and Claimants were not under compulsion to divest".[1624] Differently stated, the application of DLOMs to non-distressed companies is unsubstantiated. Indeed, the Respondents and their quantum experts overall fail to: (i) account for the already particularly qualified and sophisticated nature of the Projects' potential buyers; and/or (ii) specify and prove how and to what extent governmental authorizations could hinder the marketability of the Projects.

1051. For the reasons set out above, the Tribunal is of the view that the DLOM is not justified in this case. The Respondents' proposed discount rate can thus only amount to 25.7% at most.

c. *The country risk premium and the overall applicable discount rate*

1052. Having dismissed the Respondents' 2.0% DLOM, the Parties' calculations of the base line risk-free rate are on par with a 2.1%, and differ by 0.4% (without the unlevered beta) and by 11.7% in relation to the industry risk premium and the country risk premium, respectively.[1625] However, despite the foregoing disparity in terms of both industry risk and country risk premiums, the Parties do not address the former separately from the latter. Indeed, the Parties' submission mostly deal either with: (i) the country risk premium in particular; and/or (ii) their respective proposed discount rates as a whole. The Tribunal shall follow the same approach.

1053. In this regard, the Tribunal finds merit in several of the Claimants' arguments. First, the Tribunal agrees with the importance of making a distinction between the notions of IRR and minimal IRR (or hurdle rate), on the one hand, and discount rate, on the other.

[1624] Abdala ER II, **CER-8**, § 114.

[1625] *Supra*, §§ 1051, 1044.

1054. As already noted above, it is not controversial that the discount rate seeks to determine the net present value of future cash flows.[1626] It does so by, chiefly, factoring-in the industry and country risks that impact the cash flows; this is not controversial either. In turn, the IRR appears to serve as a profitability index: a rate that may well be commensurate with a specific project's past profitability or, in the case of new or greenfield projects, the projected return on a plausible investment. Correspondingly, a minimal IRR or hurdle rate constitutes the minimal expected profitability yield warranted to justify an investment. In this sense, it does seem to be the case that only the discount rate directly measures risk.[1627]

1055. The evidence on record confirms the Tribunal's understanding. The divide between an expected IRR and an estimated discount is evident in the agreement concluded between Venezuela and China in relation to the Junín 4 Block project.[1628] This agreement (ratified by Venezuela in May 2010) provides for the creation of a mixed company involving CNPC and CVP for the implementation of the Junín 4 Block oil project in the Orinoco Belt.[1629] It states: (i) "the activities" of the mixed company "will be aimed at obtaining an **Internal Rate of Return ("IRR")** […] equal or above eighteen percent (**18%**), without constituting a contractual obligation for [Venezuela] that this **profit** will be obtained […]; and (ii) "[b]ased on this level of **profitability**, [...] the "Recovery Time" for the "Investments" […] is understood to be the number of years necessary for the Mixed Company to recover the Investment […] based on **net cash flow**, discounted at an annual **discount rate** of ten per cent (10%)".[1630]

1056. The Tribunal notes that Mr. Figuera, "former General Manager of PDVSA's Junín Division",[1631] refers to the foregoing figures as "guidelines", "premises", and "assumptions" for the purposes of establishing an "economic evaluation prior to [the parties] taking [a] final investment decision".[1632] In particular, Mr. Figuera referred to the 18% IRR as a "corporate target" (as opposed to a "commitment" or an

---

[1626] *Supra*, fn. 1617; Brailovsky & Flores ER II, **RER-7**, § 256.

[1627] C-PHB, fn. 1676

[1628] Reply, § 493.

[1629] *Law Ratifying the Convention Between the Bolivarian Republic of Venezuela and the People's Republic of China on the Cooperation to Develop Junín 4 Block in the Orinoco Belt,* OFFICIAL GAZETTE No. 39,527, 20 May 2010, **C-307**, Article 1.

[1630] *Law Ratifying the Convention Between the Bolivarian Republic of Venezuela and the People's Republic of China on the Cooperation to Develop Junín 4 Block in the Orinoco Belt,* OFFICIAL GAZETTE No. 39,527, 20 May 2010, **C-307**, Article 6 (emphasis added).

[1631] C-PHB, § 924.

[1632] Tr. (Day 5) 1881:6-8 (Figuera).

"objective"),[1633] and to the 10% discount rate as "an estimation of their [Recovery Time, namely, as an] economic evaluation to make the final investment decision" (as opposed to an analysis of "the economy of the business").[1634] Be that as it may, the IRR and discount rate were clearly given different functions (and even value) at the moment of considering the initial investment: the IRR was associated with expected profitability, while the discount rate with the net present value of cash flows necessary to recoup the said investment.

1057. Most of the evidence relied upon by the Respondents points in the same direction. Indeed, while the Respondents assert that "all the literature on" IRR, hurdle rates and discount rates establish a "connection" between these concepts,[1635] only one doctrinal account appears to employ these terms interchangeably.[1636] Yet, it does so for the purposes of that particular "text" and/or in the context of how these rates are used in "common practice";[1637] something that does not belie the technical differences between them.

1058. The remaining authorities relied upon by the Respondents simply define the notion of "hurdle rate" as:[1638]

> i. The minimum rate of return on a project or investment required by a manager or investor. In order to compensate for risk, the riskier the project, the higher the hurdle rate;[1639]
>
> ii. [A] particular amount of profit that someone expects to get before they will decide to INVEST in something;[1640]
>
> iii. [T]he rate of return that a proposed project must provide if it is to be worth considering: usually calculated as the cost of the capital involved adjusted by a risk factor;[1641] and

---

1633 Tr. (Day 5) 1778:8-24 (Figuera).

1634 Tr. (Day 5) 1779:1-7 (Figuera).

1635 *Supra*, § 1029.

1636 Franklin J. Stermole and John M. Stermole, ECONOMIC EVALUATION AND INVESTMENT DECISION METHODS, (12th ed., Investment Evaluations Corporation 2009), App. BF-134, pp, 12-13 ("The terms minimum rate of return," "hurdle rate," "discount rate," "minimum discount rate," and "opportunity cost of capital" are all **interchangeable** with the term "cost of capital" **as used in this text and common practice**. These interchangeable terms which represent "opportunity cost of capital" must not be confused with the "financial cost of capital" which is the cost of raising money by borrowing or issuing") (emphasis added).

1637 *Supra*, fn. 1636.

1638 R-PHB, § 837.

1639 INVESTOPEDIA, Definition of "Hurdle Rate," *available at* www.investopedia.com, **R-172**.

1640 LONGMAN DICTIONARY OF CONTEMPORARY ENGLISH, Definition of "Hurdle Rate," *available at* www.ldoceonline.com, **R-173**.

iv. In capital budgeting, the required return for a project. That is, when a company is planning its outlays in the medium and long-term, it requires a certain rate of return on projects, because they can be quite expensive and the outlays tie up capital that can be used elsewhere. This required return is called the hurdle rate.[1642]

1059. Nothing of the above, however, equates an estimated IRR or a necessary hurdle rate with the discount rate appropriate to bring future cash flows back to the net present value. To be clear, the Tribunal is not of the view that the concepts of IRR and hurdle rate are to be disassociated from the notion of investment risk. Indeed, the Tribunal accepts that, the riskier the project, the higher an IRR or hurdle rate is likely to be required. Otherwise, the project in question could face "a low return that [might] dilute [the] return on capital employed".[1643] That, however, is different from stating that a firms' (minimal) IRR is a tool for directly or independently measuring the risk pertaining to the cost of capital. Differently stated, while it might well be that an IRR interplays with the appropriate discount rate, arriving at an IRR does not necessarily determine the applicable discount rate.

1060. The position of the Parties' quantum experts is vastly different on this point. Mr. Brailovsky and Mr. Flores illustrate their view with the following example:

> For illustrative purposes, assume that an asset has a lifetime of one year. At the end of that year it is expected to yield a net cash flow of US$ 125. Assume that the asset is purchased for a price of US$ 100 to be paid at the beginning of the year. This is tantamount to saying that the buyer considers that a profit rate of 25% satisfies its expectations, as the transaction is anticipated to provide US$ 25 after covering the initial investment of US$ 100. Alternatively, one can say that the buyer has applied a discount rate of 25%. In multi-year projects the same simple concept applies, although the computation is slightly more complicated. This example underlines the fundamental point that, in a situation where no debt exists, a discount rate is no more and no less than an expected rate of profit.[1644]

1061. The Respondents complement their experts' opinion by affirming that "[a]nyone using a discount rate lower than the hurdle rate in determining whether to enter into a project would be grossly overpaying for that project, **a business approach that no rational company would adopt**".[1645]

[1641] THE FREE DICTIONARY BY FARLEX, Definition of "Hurdle Rate," *available* at www.thefreedictionary.com, **R-174**.

[1642] FARLEX FINANCIAL DICTIONARY, Definition of "Hurdle Rate," *available* at financial-dictionary. thefreedictionary.com, **R-175**.

[1643] Alaska State Legislature, Legislative Budget and Audit Committee, Minutes of Meetings held on 14-15 June 2006, **App. BF-129**, pp. 124.

[1644] Brailovsky & Flores, **RER-3**, §§ 254-255.

[1645] Rejoinder, § 579; R-PHB, § 837.

1062. Mr. Abdala in turn offers the following hypothetical:

> Assume that the target asset exhibited high profitability (i.e., returns of 25% per year) that is expected to be maintained in the future. Assume, in addition, that investors can source capital, at an average cost of 10%. According to Brailovsky and Flores's long-term profitability proposition, a buyer should use the 25% as discount rate to value this asset (thus yielding a much lower price than if the buyer's actual cost of capital, 10%, had been used as a discount rate). In this environment, however, the seller will never voluntarily transfer the asset at the (low) price implied by a 25% discount rate, as otherwise it would be giving away significantly more value than it would receive. Further, because the seller knows that alternative buyers could source funds at an average of 10% cost of capital, this implies that, in a competitive environment, the seller would just wait for other buyers that would be willing to earn a normal return on equity at 10% (or marginally higher). Although the buyer would like to pay a low price (consistent with a discount rate above the 10% cost of capital), competition among buyers will drive the price upwards, such that buyers will obtain just a normal expected return on the investment and no more. That is, the transaction price in a competitive market will reflect an implicit discount rate equal to the cost of capital, and not the historic profitability rate.[1646]

1063. The evidence relied upon by the Respondents again seems to run contrary to their position. In her intervention at the 2006 public hearing before the Alaska State Legislature, Ms. Kah indeed referred to a 12% rate that, in her view, could be higher in projects located elsewhere than in the United States. However, contrary to the Respondents' submission,[1647] Ms. Kah's reference pertained to the applicable "discount rate".[1648] While Ms. Kah also dealt with the notion of IRR, she did so separately. In particular, Ms. Kah stated:

> First I wanted to say that companies really do look at a range of measures; we don't look at one measure. **And IRR is a very important measure that we take very seriously**. **<u>We also</u>** take some measures seriously that economists, including myself, really gasp at: return on capital employed. A very important measure to us as an accounting measure and economists hate it, but Wall Street pays attention to it, it actually access price-earnings ratio, in terms of stock prices. So it's very important that we look at return on capital employ and make sure we don't invest in a project that will have such a low return that it will dilute our return on capital employed**. <u>We also</u>, of course, do look at net present value**. But I would like to comment that if it is true that this project [...], the Alaska pipeline, has the highest net present value of any project in the world that that's because it requires the most investment and it's the largest project. **That doesn't mean the returns are going to be commensurate with that**. [...] Some of the comments that **Econ One** made about the way we look at projects and even **discount rates** that we use, I would disagree with. Our industry doesn't necessarily use the **10 percent** discount rate. And I think you even presented some material yesterday indicating that a U.S. risk **discount rate** was more like **12 percent**, and that's for the U.S. in general. If you looked at the energy industry it would probably be higher than that in terms of the risk involved in energy projects in the United States. [...] and this may sound like a small detail to people, but [...] you even said in your analysis yesterday that 1

[1646] Abdala ER I, **CER-1**, § 162.a.i.

[1647] *Supra*, § 1037.

[1648] *Supra*, fn. 1602.

percentage point in a discount rate is worth $5 billion in **MPV [market present value]**.[1649]

1064. In line with Mr. Abdala's hypothetical,[1650] Ms. Kah's intervention: (i) does not treat the notions of IRR and discount rate interchangeably; (ii) associates the notion of discount with the notion of net present value; (iii) sets apart the high net present value of a project from the IRR yield; and (iv) recognizes the important effect of the applicable discount rate on the market present value of a project.

1065. The Respondents similarly rely on Dr. Finizza's (i.e. Econ One) presentation made for the purposes of the same public hearing before the Alaska State Legislature (and to which Ms. Kah reacted).[1651] However, Dr. Finizza's intervention is again unfavorable to the Respondents' position on this issue.

1066. As recounted by the Respondents, Dr. Finizza's presentation commenced by explaining that "[p]rojects need to be evaluated at the risk-adjusted cost of capital, which may be above the Weighted Average Cost of Capital," and that a project is made riskier by "Uncertainty," "Political risk" and "Economic risk"".[1652] He made these observations when dealing with the notion of discount rate.[1653] Notably, Dr. Finizza identified several discount rates, namely, a 10% "Gasline discount rate", as well as discount rates applicable as of 2005 to the United States (12%), Norway (13%), Qatar (21%), and Venezuela (25%).[1654]

1067. Dr. Finizza's presentation, however, did not stop there. He went on to separately define IRR as the "rate at which the NPV of a project equals zero" (the same mathematical definition used by the Claimants),[1655] and to distinguish it from the

[1649] Alaska State Legislature, Legislative Budget and Audit Committee, Minutes of Meetings held on 14-15 June 2006, **App. BF-129**, pp. 123-124 (emphasis added, brackets and abbreviations in the original).

[1650] *Supra*, § 1062.

[1651] *Supra*, § 1036

[1652] *Supra*, fn. 1599

[1653] Dr. Anthony Finizza, Consultant, Econ One Research, Inc., Presentation, *Presentation on Alaska Gas Pipeline Project to Alaska State Legislative Budget & Audit Committee: Investment Decision-Making by Oil and Gas Companies*, 31 August 2005, **App. BF-132**, slide 4.

[1654] Dr. Anthony Finizza, Consultant, Econ One Research, Inc., Presentation, *Presentation on Alaska Gas Pipeline Project to Alaska State Legislative Budget & Audit Committee: Investment Decision-Making by Oil and Gas Companies*, 31 August 2005, **App. BF-132**, slides 4, 13. In this regard, the Tribunal notes that, contrary to the Respondents' assertion, Ms. Kah did not opine that a "return of higher than 12% presumably at least 15%, would be necessary for an energy project in the United States" (R-PHB, § 848). Rather, it seems that, reacting to Dr. Finizza's presentation, Ms. Kah disagreed with his 10% "Gasline discount rate" yet to some extent concurred with his 12% discount rate applicable to energy projects in the United States.

[1655] Dr. Anthony Finizza, Consultant, Econ One Research, Inc., Presentation, *Presentation on Alaska Gas Pipeline Project to Alaska State Legislative Budget & Audit Committee: Investment Decision-Making by Oil and Gas Companies*, 31 August 2005, **App. BF-132**, slide 8; C-PHB, fn. 1676 ("An IRR is a mathematical construct: it is the rate of return at which the net present value of cash flows from a project equals zero").

"threshold rate of return" (or hurdle rate), which he then estimated to be between 12%-15% for projects without "significant risk factors".[1656] Dr. Finizza's differentiation between these concepts went as far as stating that "[a]ll projects with an **IRR greater** than the **risk-adjusted cost of capital** [i.e. discount rate] should be **accepted** when there are no capital budget restraints [and] [c]hoose [even] higher **IRR projects** when there are capital budget restraints".[1657] Dr. Finizza's "business approach", which in fact reflects the Venezuela-China agreement for the development of the Junín 4 Block,[1658] is unfathomably characterized by the Respondents as the one that "**no rational company would adopt".**[1659]

1068. Dr. Finizza remained consistent during questioning before the Legislative Budget and Audit Committee. As noted by the Respondents, the exchange between Senator Wilken and Dr. Finizza went as follows:

> SENATOR WILKEN referred to the language on page 16, which shows that the [Ibbotson Associates] work indicated the following international costs of capital, based on market data and country credit ratings: U.S. - 12 percent; Norway - 13 percent; Qatar - 21 percent; and Venezuela - 25 percent. He said there has been discussion about an 8-10 percent discount rate. He asked, "And so, if we were going to build this project in ... Venezuela, instead of using a 10 [percent discount rate], we'd be using a 25 [percent rate]?"
>
> DR. FINIZZA answered yes. He continued:
>
> Let's say you had an IRR from a project in ... Norway, and it had an IRR of 15, and you had an IRR in Venezuela of, say, 20. You would probably say, "I'm more happy with the Norwegian one, because of ... [the] risk premium, ... and I would reject, perhaps, the Venezuela one, even though it had a higher IRR at the same discount rate, but it didn't pass the hurdle of 25.[1660]

1069. The Tribunal disagrees with the Respondents' reading of Dr. Finizza's answer. It is not that "an investor would require a premium above the rate of return required in less risky countries to invest in Venezuela".[1661] Rather it is more likely that Dr. Finizza precisely reaffirmed the business approach that the Respondents deem inapposite: the reason why the Norwegian project would be a better option in that particular

[1656] Dr. Anthony Finizza, Consultant, Econ One Research, Inc., Presentation, *Presentation on Alaska Gas Pipeline Project to Alaska State Legislative Budget & Audit Committee: Investment Decision-Making by Oil and Gas Companies*, 31 August 2005, **App. BF-132**, slide 8; C-PHB, fn. 1676 ("An IRR is a mathematical construct: it is the rate of return at which the net present value of cash flows from a project equals zero").

[1657] Dr. Anthony Finizza, Consultant, Econ One Research, Inc., Presentation, *Presentation on Alaska Gas Pipeline Project to Alaska State Legislative Budget & Audit Committee: Investment Decision-Making by Oil and Gas Companies*, 31 August 2005, **App. BF-132**, slide 8.

[1658] *Supra*, §§ 1055-1056.

[1659] *Supra*, § 1061.

[1660] Alaska State Legislature, Legislative Budget and Audit Committee, Minutes of Meetings held on 14-15 June 2006, App. BF-129, p. 43.

[1661] *Supra*, § 1036.

scenario is because, despite its lower IRR (15%), it would still be higher than its 13% discount rate. Conversely, despite the Venezuelan projects' higher IRR (20%), it would be lower than its 25% discount rate. Regardless, Dr. Finizza's approach further confirms that the notions of IRR, hurdle rate and discount rate are not synonymous.

1070. In light of the above, the Tribunal finds that the statements made by Mr. McKee, Mr. Sheets, Mr. Fox, and Mr. Moyes, on which the Respondents rely to support their proposed discount rate, are besides the point.[1662] They all refer to IRRs or hurdle rates ranging from 20% to 30%, not to discount rates.[1663]

1071. Similarly, whether or not the *ICC Mobil* tribunal "misunderstood" the distinction between discount rate and IRR is immaterial.[1664] For the Tribunal, it suffices to note that the *ICC Mobil* tribunal did base its 18% discount rate determination, at least partly, on the "volatility in rates of return", on "long-term historical rates of return", and on "average [rates of] return" of both ExxonMobil (the claimant's parent company) and other "comparable oil companies".[1665] In view of this, the Tribunal agrees with the Claimants' quantum expert that paying regard to measurements of past or actual profitability to calculate a discount rate:

i. Induces certain level of survivorship bias (i.e. only measuring the success of the "largest crude oil companies" as opposed to those that failed).[1666] This is particularly so if the profitability of a parent company is factored-in. The rate of return of a parent company "has no necessary connection to what a willing buyer would pay for a specific asset owned by that company".[1667]

ii. "[M]ay have nothing to do with what willing buyers and willing sellers may be willing to pay for an asset if they discount" cash flows either at the cost of capital or the cost of equity.[1668]

1072. The findings of the *ICC Mobil* award therefore do not serve as useful guidance for the Tribunal in reaching its determination of the appropriate discount rate in the case at hand.[1669] The same can be said of the *ICSID Mobil* award which, although the tribunal

---

[1662] *Supra*, §§ 1031-1034.

[1663] *Supra*, § 1022.i.

[1664] *Supra*, § 1030; Reply, § 536.

[1665] *Mobil Cerro Negro, Ltd. v. Petróleos de Venezuela, S.A. and PDVSA Cerro Negro, S.A.*, ICC Case No. 15416/JRF/CA, Final Award, 23 December 2011, **CLA-16**, §§ 774-775.

[1666] Abdala ER II, **CER-8**, § 162.b.

[1667] C-PHB, § 942(a).

[1668] Tr. (Day 10) 2730:3-18 (Abdala).

[1669] Accordingly, the Tribunal needs not determine whether the *ICC Mobil* tribunal had no alternative other than opting for an 18% discount rate in light of the alleged unreasonableness of the one proposed by the claimant in that case (C-PHB, § 942(b); R-PHB, § 828).

certainly undertook an independent analysis of the case before it (contrary to what the Claimants appear to imply),[1670] nonetheless endorsed the discount rate methodology adopted in the *ICC Mobil* award to some extent.[1671]

1073. The Tribunal finds further merit in the Claimants' arguments with respect to the inadequacy of Venezuela's sovereign debt in the calculation of the discount rate.[1672] According to the Respondents' quantum experts, the yields of the private sector bonds denominated in foreign currencies are not impervious to the behavior of the sovereign bond of their jurisdiction. Therefore, downward trends in the latter affect the former; a factor that must be accounted for when determining the country risk premium in the discount rate.[1673] Mr. Brailovsky's and Mr. Flores' main example to that effect concerned the corporate bond rating of Repsol-YPF ("YPF") operating in Argentina around its sovereign default in the early 2000s.[1674] The figures provided by the Respondents' quantum experts indeed show that YPF's corporate bond rating dropped various credit notches during that time.[1675] However, as pointed out by the Claimants and their expert, and rightly so, Mr. Brailovsky and Mr. Flores failed to compare YPF's bond yields to those of Argentina during the same period. Had they done so, says Mr. Abdala, they would have noted that the bonds moved independently.[1676]

1074. Notably, when confronted with this data during the Hearing, Mr. Brailovksy was unable to account for the autonomous behaviour of the bond yields besides noting some occasional parallel evolution.[1677] Yet, the Tribunal finds that concurrence is far from correlation and even more so from causation. Accordingly, the Tribunal

[1670] C-PHB, § 943; R-PHB, § 828.

[1671] *Mobil ICSID*, **RLA-2**, §§ 367-368.

[1672] *Supra*, § 1021.i

[1673] Brailovsky & Flores, **RER-7**, §§ 190-194.

[1674] Brailovsky & Flores, **RER-7**, §§ 195-198.

[1675] Brailovsky & Flores, **RER-7**, § 197.

[1676] Abdala Hearing Presentation, slide 22; C-PHB, § 901 ("For example, between April and December 2001, when Argentina's yield skyrocketed from 18% to 60%, YPF's bond yield actually *decreased*. YPF's yield increased temporarily several months after Argentina defaulted, for reasons unrelated to that default, but then returned to its previous, stable level below 10% in April 2003. It maintained that stable level for the next several years—while at the same time, the sovereign bond spread continued to fluctuate between 50 and 70%, with high volatility")

[1677] Tr. (Day 11) 2870:11 – 2871:9 (Brailovsky).

considers that the status of Venezuela's sovereign debt has no place in the calculation of the discount rate to be applied here.[1678]

1075. Moreover, the Claimants submit that the Projects would not have been fully exposed to Venezuelan country risk.[1679] The Tribunal partially agrees. As suggested elsewhere in this Award, while the Claimants produced and traded a commodity whose revenues were primarily obtained in USD, it is not accurate to state that such revenues could have remained in USD.[1680] Further, while it might be true that the Projects acquired critical items from international markets (in terms "of transport pipelines to the port, the upgraders and fuel for the upgraders, and the port to transport the [CCO] to market"),[1681] they did use local capital (in terms of workforce at least) and were thus not immune to supply chain disruptions.[1682] In addition, the Projects' production facilities (i.e., oil fields and upgraders) are unmovable. Hence, it is spurious to accept that all country-specific factors affecting production schedules and profits would have been avoided.

1076. Nevertheless, the Claimants are fully correct in that the Projects counted "with legal protections designed to reduce their exposure to adverse governmental actions",[1683] such as the DA provisions themselves and investment treaty arbitration. The Respondents disagree:

> [T]he argument that the Projects were protected from regulatory risk by treaty […] and that regulatory risk should therefore be excluded from the calculation of the country risk premium evinces a fundamental misunderstanding of the concept of country risk. That argument would effectively eliminate the concept of political risk as an integral part of country risk, thereby distorting the discount rate analysis. Moreover, the factual premise of Claimants' argument is incorrect. Absent a stabilization agreement, a treaty does not protect an investor from most regulatory risks and does not prevent expropriation. Treaties do provide for the calculation of compensation based on fair market value before an expropriatory measure is implemented or announced, but they do not direct that the calculation of compensation should be based on a pretend universe where the generalized regulatory risk in the host State never existed.[1684]

[1678] The Tribunal therefore needs not make a determination on the Claimants' argument that the Respondents' quantum experts inadequately "anchor their country risk premium on the […] present-day borrowing costs of the Venezuelan government". (*supra*, § 1021.i).

[1679] *Supra*, § 1021.iii; Abdala ER I, **CER-3**, §§ 97-98; Abdala ER II, **CER-8**, § 100.

[1680] Supra, §§ 936-946.

[1681] Abdala ER II, **CER-8**, § 100.c.

[1682] Abdala ER I, **CER-3**, §§ 97-98; Brailovsky & Flores, **RER-7**, § 52.

[1683] C-PHB, fn. 1663.

[1684] SoD, § 529.

1077. The Respondents' position is misguided. An investment treaty does not prevent an expropriation or, in fact, any other public measure possibly impacting a particular undertaking. Yet, that is beside the point. An investment treaty does accord some foreign investors additional protection against state measures that other investors (even within the same affected industry) might not otherwise have. The ICSID Arbitration initiated by the Claimants attests to that fact. The point is not that an applicable treaty would have eliminated regulatory or country risk, but rather that it would have managed or mitigated it.

1078. The same goes for the DA provisions, as clearly conceded by Mr. Brailovksy at the Hearing:

> **Q.** Okay. And then, finally, you suggest that the DA Provisions were the instruments that ConocoPhillips used to "'**manage'** political and expropriation risks"; yes?
>
> **A.** (Mr. Brailovsky) Yes.
>
> **Q**. So, what you're saying in these last two sentences is that ConocoPhillips **managed** its exposure to country risk through the DA Clauses; yes?
>
> **A.** (Mr. Brailovsky) Yes.
>
> **Q.** So, you're saying that contractual protections can be used to manage exposure to country risk?
>
> **A.** (Mr. Brailovsky) well, that's what they thought, yes.
>
> **Q.** But do you believe it?
>
> **A.** (Mr. Brailovksky) Well, they didn't get full fiscal stabilization.
>
> **Q.** That wasn't my question. My question was: You're saying that contractual protections can be used to **manage—I didn't say, "eliminate", to "manage**"—country risk; yes?
>
> **A.** (Mr. Brailovsky) Yes, correct.
>
> **Q.** And this is why a discount rate calculation **needs** to take into account **the individual characteristics** of the company or Project; yes?
>
> **A.** (Mr. Brailovsky) Yes.[1685]

1079. In this regard, the Tribunal doubts that the discount rates referred to by Ms. Kah,[1686] Dr. Finizza,[1687] IHS Global Insight,[1688] and the *Merey Sweeney* report[1689] account for

---

[1685] Tr. (Day 11) 2854:22 – 2855:20 (Brailovsky) (emphasis added).

[1686] *Supra*, § 1037.

[1687] *Supra*, §§ 1035-1036.

[1688] *Supra*, fn. 1604.

any of the foregoing risk-mitigating circumstances. Indeed, these discount rates, all of which the Respondents rely upon, appear to either accommodate "generic" country-risk assessments,[1690] or involve assets located outside Venezuela.[1691] As such, they are of little assistance for evaluating the specific risk exposure of the Projects and even less to determine the discount rate applicable to the stream of cash flows germane to the compensation owed under the DA provisions of each AA.[1692]

1080. For similar reasons, the Tribunal finds only limited guidance in the discount rates relied upon by the Claimants. The Claimants refer to: (i) a report prepared for the Petrozuata Project and a Financing Memorandum for the Hamaca Project, both dated 2000, and estimating a discount rate of 8.53% and 10%, respectively;[1693] and (ii) a presentation bearing the logos of PDVSA, the Government, and the Ministry, projecting a discount rate between 8% to 12% "to value these very Projects" in 2008 (i.e. soon after the Expropriation).[1694] While these discount rates were identified by the Projects' participants themselves (and thus presumably denote the specifics of the Projects), they were set considerably prior to the relevant valuation date of the present case.

1081. As already established,[1695] in accordance with the Parties' agreement the compensation owed under the DA provisions must be determined pursuant to an *ex post* date-of-award valuation. Notably, the Claimants themselves have stated that the application of a discount rate responds to the need of "bring[ing] cash flows *back to present value* as of the **date of the Award**".[1696] It follows that the discount rate and its components must reflect the circumstances at the date of valuation.[1697] Further, the Tribunal agrees with the Respondents that the "discount rate varies depending upon

---

[1689] *Supra*, fn. 1605.

[1690] *Gold Reserve*, **CLA-21**, § 840.

[1691] In relation to the *Merey Sweeney* report, the Tribunal in any event agrees with the Claimants that the refinery dealt with therein had specific characteristics that made it particularly unmarketable and thus notably risky: "[t]he *Merey Sweeny* case […] concerned the termination of a 50% interest in a joint venture agreement relating to the construction and operation of refinery components in Texas [which] were captured within a large refinery complex that the joint venture did not own" (C-PHB, § 931.932). The Tribunal therefore needs not make a determination on the Claimants' procedural objection to the introduction of the *Merey Sweeney* report in this arbitration.

[1692] The same applies to arbitral case law setting discount rates with respects to assets located elsewhere than in Venezuela. Accordingly, the Tribunal shall not follow the determination in *Himpurna*, *Lemire*, *Occidental Petroleum*, and *Enron*.

[1693] *Supra*, fn. 1534-1535.

[1694] *Supra*, fn. 1536-1537; Slide deck by PDVSA bearing the date January 2008 filed by Venezuela in the ICSID Arbitration on 31 August 2016, January 2008, **C-374**, Slide 3.

[1695] *Supra*, § 580.

[1696] C-PHB, § 873 (emphasis added, cursive in the original).

[1697] *Supra*, § 585.

conditions prevailing as of the valuation date".[1698] In short, the country risk faced by the Projects in 2000 or in 2008 is not the same as the country risk they would face today: the now applicable discount rate must therefore take that difference into account. The same can be said of the 10% discount rate estimated for the Junín 4 Block project back in 2010.[1699]

1082. That being said, as pointed out by the Claimants,[1700] the Tribunal notes that the Respondents have not countered the 8% to 10% discount rates that the Claimants submit have been used in: (i) the 2008-2014 Consolidated Financial Statements for PDVSA and its subsidiaries;[1701] and (ii) the 2014 Cardón project between PDVSA and ENI/Repsol.[1702] Being closer to the relevant valuation date, the Tribunal cannot but take them into consideration.

1083. Notwithstanding the foregoing, the Tribunal agrees with the rationale behind *Tidewater* and *Saint Gobain* as argued by the Respondents, which essentially runs as follows: a proper but-for scenario must reflect the country risk exposure in full, that is, even the possibility of Venezuela adopting measures affecting the Projects including but not limited to expropriatory measures.[1703] Indeed, contrary to the Claimants' arguments, the issue here is not "rewarding [Venezuela's] violations of international law [or] creat[ing] an incentive for [it] to take property in violation of its international obligations".[1704] Rather, it is to properly assess the political risk of doing business in a particular state; a query that is economic and not legal.[1705] Hence, whether or not the underlying public measure is deemed lawful or not, is irrelevant.[1706] This is particularly so in the case at hand, where the Respondents' obligation to provide limited indemnity to the Claimants under the DA provisions corresponds to a contractual characterization of a determined qualified measure as a DA: it does not necessarily

---

1698 R-PHB, fn. 1747; *infra*, § 1083 ss.

1699 *Supra*, fn. 1540. In any event, bearing in mind that the first drilling in that project only took place in 2012 (Tr. (Day 5) 1775:9-10 (Figuera)), Mr. Figuera is likely right in qualifying said discount rate more as a guideline, premise or assumption (*Supra*, fn. 1632)

1700 C-PHB, §§ 883-884.

1701 PDVSA, Consolidated Financial Statements for years 2008-2010, **C-304**, p. 84; PDVSA, Consolidated Financial Statements for years 2011-2013, **C-338**, p. 102; PDVSA, Consolidated Financial Statements for years 2012-14, **C-354**, p. 126.

1702 Einstein Millán Arcia, PDVSA: Secretos del Proyecto Cardon IV – Campo Perla, SOBERANÍA, 14 July 2014, **C-343**, p. 2 (of PDF); PDVSA Presentation: Avances – Proyecto de Gas Rafael Urdaneta, Bloque Cardón IV, June 2014, **C-341**, pp. 2-3; C-PHB, § 884.

1703 R-PHB, §§ 829, 831-832.

1704 C-PHB, § 907.

1705 *Supra*, § 1028.

1706 *Saint-Gobain*, **RLA-147**, §§ 717-719; *Tidewater*, **RLA-069**, §§ 186-198.

hinge on whether the said measure is previously or subsequently declared legal or illegal.

1084. In light of the foregoing considerations, the Tribunal considers that the country risk premium (or better, the equity impact of country risk), can be appropriately set at 8.89%. Following the Claimants' unlevered CoE approach,[1707] the Tribunal therefore determines that the applicable discount rate is 18%. Overall, in the circumstances, the Tribunal considers that an 18% discount rate is reasonable.

H. OTHERS

1. Fiscal maximization

1085. The Parties' experts have quantified the damages recoverable by the Claimants under two scenarios which correspond to the two claims asserted in the arbitration, namely, for the Willful Breach Claims and for the DA Claims.[1708] However, the experts disagree on the assumptions regarding the applicable fiscal regime to be taken into account when quantifying the damages under each scenario.[1709]

1086. In a nutshell, the Respondents' experts assume that:

> For royalties and taxes for the period June 26, 2007 through the end of the original terms of the Association Agreements, […] the Government of Venezuela […] would have exercised its sovereign powers to enact such measures as would enable it to capture the maximum amount of revenue, after deduction of any compensation that would be payable by the State companies participating in the Projects under the compensation provisions of the Association Agreements.[1710]

1087. Elaborating on the above assertion, it is the Respondents' case that the Projects did not enjoy any fiscal stability and were subject to a very precise compensation mechanism. This mechanism limited the Claimants' compensation entitlement to the

---

[1707] *Supra*, §§ 1042-1043.

[1708] Abdala ER I, **CER-3,** § 3**;** Brailovsky & Flores ER I, **RER-3**, § 5.

[1709] The Tribunal notes that the disagreement arises out of the difference in instructions given to each expert by its Party.

[1710] Brailovsky & Flores ER I, **RER-3**, §§ 6, 30; Tr. (Day 9), 2483:12 – 2484:15 (**Louis T. Wells:** Claimants and their Expert also assume in their calculations a frozen fiscal regime; that is, that nothing changes after the nationalization. I think this is unrealistic. […] To assume that there – If one assumes there was no nationalization, which one has to do in a but-for analysis, then one must expect that the Government would have taken other steps to increase Government take in face of the continuing escalation of oil prices, the dependence of the country on oil revenue in its budget, its need for funds as social projects expanded and the changed political environment. So, in conclusion, I think it's unreasonable to assume that, having retained the right to take Government measures affecting the Projects, Venezuela would not have continued to exercise its sovereign powers to increase Government take in high-price scenarios; that is, after the nationalization, if the nationalization had not occurred--and at least up to a level that would not be offset by obligations incurred by the State enterprise").

"equitable compensation" payable under the DA provisions and nothing further.[1711] Thus, but-for the Expropriation, it is perfectly reasonable to assume that the Government would not have stood by and allowed the associations to capture the benefits of high oil prices. Rather, as "[t]he owner of the resource" it would have exercised its sovereign powers "to obtain the benefit of [these] exceptional profits."[1712] By way of example, the Respondents contend that if the Expropriation had not taken place, the Government would have imposed a royalty on the Projects such that they "would be left with a profit margin of approximately US$ 1 per barrel."[1713] The Respondents submit that this conclusion makes undeniable "economic, business and common sense" and the Claimants' attempt to argue that there is no automatic "value cap" or "compensation cap" in the AAs is baseless and futile.[1714]

1088. According to the Claimants' expert, the Respondents' above assumption of "fiscal maximization" by the Government is inconsistent with the actual taxation policy implemented by Venezuela after the Expropriation and is in any event "commercially unreasonable".[1715]

1089. First, the Claimants submit that post-Expropriation, Venezuela has not imposed any taxes on the revenues from either of the Projects "such that the projects would be left with a profit margin of approximately US$ 1 per barrel."[1716] Consequently, the Respondents' argument that the Government would tax away all revenues above the DA compensation deals in mere hypotheticals and is thus untenable.[1717]

1090. Second, the Claimants submit that the Respondents' fiscal maximization assumption erroneously attempts to impose a "value cap" or "compensation cap" on the profits/compensation from the Projects which is not borne out by either the terms of the AAs or their negotiating history.[1718] In this regard, the Claimants submit that there is no provision in the AAs that states that the Claimants shall forego all revenues generated above the DA compensation level in the event of breaches by the

[1711] R-PHB, § 574; Reply, § 1155.

[1712] R-PHB, §§ 582; PDVSA Strategic Business Committee Executive Summary and Presentation, 1995, **R-76,** p. 3; Mommer WS I, **RWS-1 Annex 4,** § 11 ("If the nationalization had not taken place, I definitely would have pursued such additional taxes, and I have no doubt that the Government would have adopted additional fiscal measures to take what it was entitled to under the terms of the agreements").

[1713] R-PHB, § 590.

[1714] R-PHB, § 575.

[1715] Abdala ER II, **CER-8**, §§ 4.a, 5.

[1716] R-PHB, § 590.

[1717] C-PHB, § 849.

[1718] C-PHB, §§ 515-517.

Respondents. Quite to the contrary, the Claimants submit that the DA provisions are a "special additional mechanism for compensation against adverse government conduct", i.e. the actions of a third party, and they cannot be distorted to otherwise limit the flow of compensation to the Claimants for the Respondents' breaches of their own contractual obligations.[1719]

1091. In light of the Parties' submissions, the Tribunal finds that the fiscal maximization assumption is relevant to the quantification of damages arising out of the Willful Breach Claims only. Indeed, this is common ground between the Parties.[1720] The Tribunal has previously concluded that the Respondents are not liable for willfully breaching the AAs.[1721]

1092. The Tribunal further notes that the fiscal maximization assumption plays no role in the quantification of compensation under the DA Claims: the Claimants do not dispute that there is a cap on the compensation recoverable from the Respondents for DAs pursuant to the DA provisions in the AAs.[1722]

1093. In the circumstances, as the fiscal maximization assumption does not play a role in the assessment of compensation payable to the Claimants for their DA Claims, the Tribunal does not need to determine the correctness of this assumption. However, the Tribunal implements this decision in the AUVM by toggling the appropriate toggle in favor of the Claimants.[1723] Otherwise, the Tribunal would give effect to an argument by the Respondents that, by definition, ought not to have any effect in the DA scenario.

[1719] C-PHB, §§ 523-524.

[1720] SoD, § 346 ("Respondents will present their main quantum calculations for the first category of claims [i.e., the Willful Breach Claims] applying the price cap mechanism in the [AAs], based on the logical assumption that the Government would have done what it insisted on preserving the right to do, which is enforce the 'upside cap on project economics'); R-PHB, § 591 ("Claimants' assumption that the fiscal regime would be frozen as of June 26, 2007 is untenable as a basis for calculating compensation on the first category of claims. If the 2007 Nationalization were to be unwound in a hypothetical world and the associations were to continue operating […], the Government would have had every incentive to take measures to maximize its revenues from the Projects […]"); C-PHB, § 531 ("PDVSA's indemnity for a Discriminatory Action is limited in certain price scenarios. But there is no basis in the contract for suggesting that such a limit […] functions as an overall cap on the revenues to which Claimants are entitled under the AA"), 552 ("The text of the AAs does not reference, much less impose, any […] "value cap," and the […] "compensation cap" […] in the DA provisions, does not limit the value of the contract, nor does it limit the compensation owed by Respondents to Claimants for their own willful breaches of the AAs).

[1721] *Supra*, § 491.xi.

[1722] C-PHB, § 531 ("PDVSA's indemnity for a Discriminatory Action is limited in certain price scenarios"), 563 ("What was negotiated was a limit on the indemnification payable by *Respondents* for Discriminatory Actions by the *Government*"); Tr. (Day 2), 410:9-15 (Mr. Manning) ("So there is one cap, only under the Association Agreement, and that cap is for Corpoven's indemnity for the Foreign Parties for a Government action, that there is no cap for the amount of income that we could make, whether the price is $100 or $150 or $200 a barrel – there is no cap on the price that we could make under the Contract").

[1723] *Infra*, § 1128.viii.a).

2. Hamaca Project debt

1094. In calculating the compensation payable under the DA provisions for the Hamaca Project, Mr. Brailovsky and Mr. Flores deduct the amount of debt payable by the Hamaca Project to its lenders from the Project's annual cash flows.[1724] Mr. Abdala, on the other hand, does not deduct the outstanding debt while calculating compensation for the DA Claims.[1725]

1095. According to Mr. Abdala, while ordinarily a quantum analysis based on a market value approach would take into account financial debt repayments by subtracting them from the company's cash flows, this need not be done here when calculating compensation for DAs under the Hamaca AA. This is so because the DA compensation formula in the Hamaca AA does not contemplate the deduction of outstanding debt, thus reflecting the Parties' specific understanding of the DA compensation mechanism.[1726]

1096. Mr. Brailovsky and Mr. Flores disagree. In their view, nothing in the DA formula of the Hamaca AA prevents the netting out of financial debt, especially as this is the standard approach to determining compensation. They submit that the absence of a debt repayment component in the DA formula of the Hamaca AA does not negate the need to deduct outstanding debt in order to arrive at the appropriate compensation calculation. They explain that in the ordinary course of business, the Claimants would have received DA compensation but would have to simultaneously pay their share of the Project debt. To argue otherwise creates a windfall for the Claimants which cannot be permitted.[1727] Accordingly, they submit that the debt must be deducted from the Hamaca Project's cash flows.[1728]

1097. As an initial observation, the Tribunal notes that the above point in dispute between the Parties' quantum experts only pertains to the compensation payable under the Hamaca AA. It is common ground between the Parties' experts that insofar as the Petrozuata AA is concerned, compensation is arrived at using a "standard economic

[1724] For the period between 26 June 2007 (i.e. date of the Expropriation) and 30 June 2015, Brailovsky and Flores subtract annual principle and interest payments from the Project's annual cash flows. Then, they subtract the amount of debt outstanding as of 30 June 2015 from the net present value ("NPV") of the annual cash flows projected after that date. Brailovsky & Flores ER I, **RER-3**, § 222.

[1725] Compare Compass Lexecon Hamaca Breach Scenario Model, Tab "DCF", Abdala ER I, **CER−3 CLEX−002** with Compass Lexecon Hamaca Discriminatory Provisions Scenario Model, Tab "Contract Calculation", Abdala ER I, **CER−3 CLEX−002**.

[1726] Abdala ER II, **CER−8**, §§ 131-135.

[1727] Brailovsky & Flores ER II, **RER-7**, §§ 111-113.

[1728] Brailovsky & Flores ER I, **RER-3**, § 24; Brailovsky & Flores ER II, **RER-7**, § 115.

approach" which computes the Project's revenues, costs, taxes, change in working capital, and debt repayments.[1729]

1098. Turning to the Hamaca AA, the Tribunal is persuaded by the position adopted by Mr. Abdala. It is clear that an ordinary market valuation of the compensation due to the Claimants for a harmful act could have required the deduction of outstanding debt from the Hamaca Project's revenues. However, the situation is not the same in this instance: the calculation of compensation is not based on the standard market approach. It is governed by a specific formula which has been agreed upon by the Parties as reflective of the compensation/indemnity that shall be payable by the Respondents to the Claimants in case of a DA.

1099. In these circumstances, the Tribunal finds that the outstanding debt of the Hamaca Project need not be deducted from the Project's cash flows in order to arrive at the compensation payable to the Claimants under the Hamaca AA. The Respondents' quantum experts may be correct that, in the ordinary course of business, the Claimants would have been required to pay their share of the Hamaca Project debt. That does not mean, however, that the Respondents' obligation to compensate the Claimants under the DA provision was contingent on the payment of the said Project debt by the Claimants.

1100. The DA provisions at issue have a specific purpose: providing limited indemnity to the Claimants in the event a discriminatory and unjust qualified measure causes MAE to the Hamaca Project. As such, the application of the Hamaca DA provisions certainly finds itself outside the ordinary course of business. Accordingly, the Respondents' reliance on general compensation principles, without any specific reference to how debt repayment (between Project participants) may fall under either the RNCF or the TCF formulae, is insufficient.

1101. For the sake of clarity, the Tribunal does not make a determination as to whether the repayment of the Hamaca Project debt remains an outstanding obligation on behalf of the Claimants. It might be that the Respondents could still be entitled to recover said amount as far as general civil liability is concerned. Nevertheless, the Tribunal considers that the specific DA compensation provisions are inapposite to that effect. As such, the Tribunal is of the view that discounting the Hamaca Project debt from the indemnity owed to the Claimants pursuant to the Hamaca DA provisions is unwarranted.

[1729] *Supra*, §§ 550-551.

3. Science and Technology Contribution

1102. It is common ground between the Parties' quantum experts that Article 35 of the *Ley Orgánica de Ciencia, Tecnología e Innovación* of 2005,[1730] and Article 26 of the Ley de *Reforma de la Ley Orgánica de Ciencia, Tecnología e Innovación* of 2010 (together, "Science and Technology Contribution" or "STC"),[1731] require oil and gas companies to contribute a certain percentage of their yearly gross revenues to the advancement of science, technology, and innovation in Venezuela: 2% from 2005 through 2010 and 1% from 2011 onwards (i.e. until the expiration of the Projects).[1732]

1103. The Parties' experts, however, disagree on the implementation of the STC. According to Mr. Abdala, the STC would apply to the Projects' current year gross revenues obtained from the sale of hydrocarbons only.[1733] Mr. Brailovksly and Mr. Flores in turn submit that the STC applies to the Project's previous year total gross revenues.[1734]

1104. As to whether the STC is applicable to the previous or the current year's gross revenues, the statutory provisions of this measure alone are enough to dispose of the issue. While from 2005 to 2010 the temporal scope of the STC was not entirely clear,[1735] it has been quite straightforward thereafter. Indeed, since 2011 the STC requires the payment of an "annua[l]" contribution of 1% of the "gross income obtained in the immediately preceding fiscal year".[1736] The Tribunal finds no reason, and the Claimants have provided none, to conclude that such an inter-temporal principle was any different before the STC's reform in 2010.

1105. As to whether the STC is applicable to the gross revenues obtained from the sale of hydrocarbons alone, its statutory provisions are, again, broadly dispositive of the issue. Since its adoption in 2005 the STC has been applicable to the gross revenues obtained from the exercise of the activities established in the "Hydrocarbons

---

[1730] Science and Technology Contribution 2005, **App. BF-114**, Article 35.

[1731] Science and Technology Contribution 2010, **App. BF-115**, Article 26.

[1732] Abdala ER I, **CER-3**, § 235.c; Brailovsky & Flores ER I, **RER-3**, § 218.b.

[1733] C-PHB, Appendix F, § 39(c); Brailovsky & Flores ER II, **RER-7**, Table 6.

[1734] Brailovsky & Flores ER I, **RER-3**, § 218.b; Brailovsky & Flores ER II, **RER-7**, Table 6.

[1735] Science and Technology Contribution 2005, **App. BF-114**, Article 35 ("Large companies operating in this country dedicated to the activities listed in the Hydrocarbon Act and the and Gaseous Hydrocarbon Act, will contribute an annual amount corresponding to two percent (2%) of the gross revenue earned in the national territory […]").

[1736] Science and Technology Contribution 2010, App. BF-115, Article 26.

[Law]".[1737] In the absence of a substantiated explanation to the contrary by the interested Party, namely, the Claimants, the Tribunal finds that the STC's subject-matter scope covers more than just the revenues obtained from the sale of hydrocarbon.

1106. For the reasons set out above, the Tribunal determines that the STC must be applied to the *ex post* scenario as calculated by the Respondents.

4. Post-award interest

1107. The Claimants request "post-award compound interest at a rate to be fixed by the Tribunal".[1738] The Respondents do not seem to dispute the possibility of allowing post-award interest.

1108. In consideration of the second *tranche* of Article 530 of the VCoC,[1739] the Tribunal thus finds it apposite to compound post-award interest over the amount awarded to the Claimants under the DA provisions of the AAs (already incorporating pre-award interests at the contractually agreed rates). That, however, does not mean that post-award interests in and of themselves can or must be allowed to independently accrue on a compounded basis. To the contrary, given that the simple interest on the lost cash flows are predicated on the Respondents' belated compliance with their indemnity obligations under the DA provisions (i.e. delayed payment), the Tribunal finds no reason "to differentiate between the [interest] rate [and conditions] applicable to [the] delayed payment of damages prior to or after the [a]ward".[1740]

1109. The Tribunal shall therefore grant post-award interest, on a simple interest basis, to run from 27 May 2016 in accordance with the AUVM[1741] and until the date of full and final payment of the awarded amounts at: (i) 12-month LIBOR in relation to the lump sum (including interest) awarded pursuant to the Petrozuata AA; and (ii) 3-month LIBOR in relation to the lump sum (including interest) awarded pursuant to the Hamaca AA.

[1737] Science and Technology Contribution 2005, **App. BF-114**, Article 35; Science and Technology Contribution 2010, **App. BF-115**, Article 26.

[1738] C-PHB, § 1027(p).

[1739] *Supra*, fn. 1525.

[1740] SoC, § 337.

[1741] The Tribunal finds it consistent and appropriate, in view of the established valuation date, to award post-award interest as of 27 May 2016, this date being the date until which pre-award interest is granted.

5. Methodology for calculating net present value of equity

1110. In order to calculate the net present value of equity for the DA claim in the post-date of valuation period, Mr. Abdala applies the "free cash flows to equity" (FCFE) method of valuation.[1742] By contrast, the Respondents apply a "free cash flows to firm" (FCFF) method of valuation. On balance, the Tribunal finds that the Claimants' approach is to be preferred. As the Claimants rightly point out, applying the Respondents' methodology results in a situation where the Projects become uneconomical on a post-tax basis starting from 2015 and become permanently loss making in and around 2023 (Petrozuata) and 2027 (Hamaca).[1743]

1111. Moreover, the models appear to assume that despite the permanent losses suffered by the Projects, they will continue to run until the end of their contract terms, thereby reducing the value of the Projects even further.[1744] The Tribunal finds that this assumption does not comport with the manner in which any rational commercially driven operator would run the Projects. While the Claimants dispute that the Respondents had commercial incentives, the Tribunal has previously concluded that this is not the case. Moreover, at least the Hamaca Project also involved a "commercial minded entity" comparable with the Claimants (i.e. Chevron). It is arguable that irrespective of the Respondents, it is not likely that Chevron would have remained involved with a loss making enterprise. Accordingly, the Tribunal finds that the Claimants' method of calculating the net present value of equity on the basis of the FCFE should be applied.

6. Working Capital, depreciation and other revenues

1112. In this section, the Tribunal addresses certain remaining DCF inputs on which the Parties' experts differ, namely, working capital requirements and depreciation.

1113. Working capital refers to the amount of cash that a company needs to retain to ensure the sound operation of its business on a day to day basis (as opposed to

---

[1742] Free cash flow to equity is a measure of cash flow available to the equity holders of the asset, whereas free cash flow to the firm is a measure of cash flow available to the firm (i.e., to all its stakeholders – equity and debt holders). Abdala/Spiller ICSID Consolidated Report, §§ 33-36, 42-43, fn 34.

[1743] Abdala/Spiller, ICSID Consolidated Report, §§ 113, figure 18, figure 19; Tr. (Day 10), 2603:22-2604:13 (Mr. Abdala).

[1744] Abdala/Spiller, ICSID Consolidated Report, § 115.

distribution to the company's equity and debt holders). It is defined as current assets less current liabilities.[1745]

1114. Mr. Abdala forecasts working capital by taking a simple average of values representing the ratio between working capital and relevant cash flow accounts (revenues, operating expenses, capital expenditure, or royalties) for the historical period.[1746] The Respondents' experts, Mr. Brailovsky and Mr. Flores, follow the same methodology but substitute their inputs (for revenues, OPEX, CAPEX etc.) instead.[1747]

1115. Depreciation is an accounting mechanism whereby certain expenditures are not fully deducted against income in the year in which they are incurred, but deducted over a period of several years at a certain rate, i.e. certain portion of their value is deducted year on year.[1748] Depreciation is deducted from operating expenses in order to arrive at the net taxable income.

1116. Mr. Abdala states that he depreciates and amortizes expenses on the basis of the methodology followed in the Projects' financial statements. Depreciation of property, plant, and equipment is computed according to the "unit of production" methodology, which considers the ratio of production to the aggregate remaining hydrocarbons until the end of the term of the concession. The upgrader facilities are depreciated on the basis of a straight-line methodology over a period of 17 years. Intangible assets are amortized using a straight-line approach.[1749]

1117. According to Mr. Brailovsky and Mr. Flores, the methodology followed by Mr. Abdala is not supported by the financial statements of the Project available on record.[1750] They point to the 2005/2006 financial statements of the Petrozuata Project which allegedly follow a different depreciation methodology. For instance, "assets used in

---

[1745] Abdala ER I, **CER-3**, § 227; Brailovsky & Flores ER I, **RER-3**, § 220. Brailovsky and Flores explain that an increase in working capital from one year to the next represents a decrease in the cash that can be distributed to the company's equity and debt holders, while a decrease in working capital is a release of tied-up cash, thus increasing the cash that can be distributed to the company's equity and debt holders.

[1746] Abdala ER I, **CER-3**, § 228; Petrozuata CA Financial Statements for fiscal years ending, 31 December 2002, 2003, 2004, 2005 and 2006, Abdala ER I, **CER-3 CLEX-059**; Hamaca Project Financial Statements for fiscal years ending 31 December 2003 (Abdala ER I, **CER-3 CLEX-047**), 2004 (Abdala ER I, **CER-3 CLEX-046**), 2005 (Abdala ER I, **CER-3 CLEX-045**), and 2006 (Abdala ER I, **CER-3 CLEX-042**).

[1747] Brailovsky & Flores ER I, **RER-3**, §§ 220-221; Brailovsky/Flores ICSID Consolidated Report, § 343.

[1748] Brailovsky & Flores ER I, **RER-3**, § 207.

[1749] Abdala ER I, **CER-3**, § 226. As per Mr. Abdala's methodology, all assets are fully depreciated by the end of the concession period.This means that if the useful life of any asset is longer than the remaining years of the AAs, the asset is depreciated at a faster rate than the rate corresponding to its actual useful remaining life.

[1750] Brailovsky & Flores ER I, **RER-3**, § 209.

the production of hydrocarbons are amortized or depreciated using the unit of production method based on proved developed reserves estimated for the 35-year operating life of the [AA]", "assets related to pipeline investments are depreciated using the straight-line method over a period of 23 years", "capitalized costs of all other support equipment and facilities are depreciated on a straight-line method over an average estimated useful life of five years".[1751]

1118. In light of the above, Mr. Brailovsky and Mr. Flores reject the straight-line methodology which assumes a 17 year useful life for the upgrader facilities. Instead they depreciate the Projects' assets on the basis of the methodology that is followed in the 2005/2006 financial statements. They depreciate assets used in the production of hydrocarbons and in the transformation of hydrocarbons using the unit of production method. They depreciate turnaround CAPEX using a straight-line method over 4-year periods and all other CAPEX for supporting equipment and facilities using Mr. Abdala's methodology.[1752]

1119. Having examined the Parties' submissions and the supporting documents, the Tribunal finds that the key issue in dispute pertains to the methodology to be followed for depreciating the Projects' assets. In particular, the disputed issue concerns how the upgrader should be depreciated. Although Mr. Abdala has stated that he applies the depreciation methodology in the Projects' financial statements, he has not supported this statement with documentary evidence. In fact, having examined the Petrozuata Project's financial statements, the Tribunal notes that none of them point to depreciation over a 17 year period as alleged by Mr. Abdala.[1753] Rather, these financial statements reflect the methodology applied by the Respondents and constitute sufficient basis for the same to be accepted. In any event, the Tribunal notes that despite the Respondents' opposition to his calculation of depreciation, Mr. Abdala ultimately opines that the differences in calculation of these DCF inputs "does not give rise to material valuation differences".[1754] Thus Mr. Abdala appears to accept the Respondents' calculation of depreciation will not produce significantly erroneous results. In the circumstances, the Tribunal is of the view that the Respondents' calculations of depreciation should be accepted.

[1751] Petrolera Zuata, Petrozuata CA Financial Statements for fiscal years ending 31 December 2002, 2003, 2004, 2005 and 2006, Abdala ER I, **CER-3 CLEX-059**, pp. 242, 243. It appears that the Hamaca Project follows a similar methodology.

[1752] Brailovsky & Flores ER I, **RER-3**, §§ 210-211.

[1753] Petrolera Zuata, Petrozuata CA Financial Statements for fiscal years ending 31 December 2002, 2003, 2004, 2005 and 2006, Abdala ER I, **CER-3 CLEX-059**, pp. 242, 243

[1754] Abdala ER II, **CER-8**, fn. 12.

1120. The Tribunal also notes that the Parties' experts agree on the methodology to be adopted to arrive at working capital requirements but differ only as to the inputs, i.e. revenue, OPEX and CAPEX. Even in this respect, Mr. Abdala opines that the differences in calculation do not give rise to material valuation differences. Hence, the Tribunal considers it appropriate to adopt the Respondents' working capital estimates.

7. Tax net award

1121. The Claimants submit that, "[b]ecause Dr. Abdala's DCF calculation takes account of all applicable Venezuelan taxes, no further Venezuelan taxes should be payable on this Tribunal's Award. [A]ny taxation of the Award would result in Claimants impermissibly being taxed twice for the same income".[1755]

1122. In this regard, "in order to ensure the finality of the Tribunal's Award, secure full reparation under Venezuelan law, and prevent double taxation",[1756] the Claimants request: (i) for the award to be net of all applicable Venezuelan taxes; and (ii) for the Tribunal to hold that any taxes applying under Venezuelan law to the payment of the award to be borne by the Respondents.[1757] In short, the Claimants request for the "amount effectively received […] after deduction of all applicable taxes corresponds to the full amount granted by the Tribunal".[1758]

1123. The Tribunal notes that the Claimants' argument is premised on the assumptions germane to their Willful Breach Claim. Indeed, it is under that claim that the Claimants have instructed their quantum expert to "assume that all taxes imposed by Venezuela on the Projects would apply in the but for scenario, with the exception of the [SPEC]".[1759] On the other hand, under their DA Claim the Claimants have instructed their quantum expert to exclude the Royalty Measure, the Extraction Tax, the Income Tax Increase, the SOCO, and the SPAT.[1760] Further, Mr. Abdala has assumed that the ADCO would not have applied to the Hamaca AA, an assumption that the Claimants endorse.[1761]

[1755] C-PHB, § 869; SoC, § 315.

[1756] C-PHB, § 871.

[1757] C-PHB, § 871.

[1758] C-PHB, § 1027(u).

[1759] C-PHB, § 845.

[1760] *Supra*, §§ 949-951.

[1761] *Supra*, § 951.

1124. Nevertheless, the Tribunal has determined that all of the taxation measures at issue are either applicable or not applicable in the but-for world, or constitute (or would have constituted) DAs. Therefore, the Tribunal considers that, in light of its determinations, the Claimants' DA Claim stands on par with their Willful Breach in this regard: the amount awarded is net of taxes. To that extent, the Tribunal agrees with the Claimants that applying taxes to the amount awarded would undermine the principle of full compensation and would allow, in part, impermissible double taxation.[1762] The Tribunal further notes that the Respondents do not seem to have opposed the Claimants' request either in their written submissions or during the Hearing. Therefore, the Tribunal shall grant the Claimants' request for a tax net Award.

8. Reimbursement to the Respondents

1125. The Tribunal recalls that the Claimants have clarified that they do not seek double recovery for the damage suffered. In the context of their DA Claim in particular, the Claimants have stated the following:

> [A]ny monetary reparation (after deduction of legal and expert costs incurred in connection therewith) that the ICSID Claimants actually recover (*i.e.*, awarded and paid by Venezuela) in the ICSID Arbitration, before recovery in this ICC proceeding, will reduce Respondents' liability in respect of the claims asserted in this ICC proceeding, to the extent that such reparation is based on the same actions by the Government and/or PDVSA. The converse is true as well. If Claimants receive payment for damages or indemnification in connection with this ICC proceeding and are later awarded monetary reparation in connection with the ICSID Arbitration (to the extent that such damages are based on the same actions by the Government and/or PDVSA), Claimants will reimburse Respondents for the amount that Respondents have paid in this ICC Arbitration, after deduction of Claimants' legal and expert costs, to the extent necessary to prevent double recovery.[1763]

1126. The Claimants clarify, however, that "the ICSID Tribunal has found that it could not award compensation under the BIT for these pre-dispossession fiscal measures due to a carve-out for tax measures in the BIT. As a result of that ruling in the ICSID Arbitration, these ICC proceedings are the only viable recourse for Claimants' losses flowing from the Royalty Increase, the Extraction Tax, and the Income Tax Increase, presented as part of the DA Claim".[1764]

[1762] C-PHB, § 869-871; SoC, § 317-319; Reply, § 568(s).

[1763] C-PHB, § 164; *supra*, § 69.

[1764] C-PHB, fn. 27.

I. CONCLUSION (APPLICATION OF THE AUVM)

1127. As established at the very outset, the Tribunal shall ascertain the amounts owed to the Claimants under the DA provisions in accordance with the *ex post* date-of-award valuation provided in the Abdala Updated Valuation Model (with a valuation date of 27 May 2016 as the most appropriate proxy for the date of the Award).[1765] In light of the Tribunal's determinations on the multiple issues in dispute, the present section sets out the way in which the Tribunal has toggled the various inputs of the AUVM. When relevant, the Tribunal also explains the edits made to the AUVM in order to reflect some of its findings on both liability and quantum.

1128. The following step-by-step explanation thus attempts to reflect the order in which every issue has been dealt with in the present Award as per the AUVM. For the sake of clarity, the headings, subheadings, and terms in quotations expanded below are entitled as they appear in the AUVM's Control Panel, or in the AUVM generally. When necessary, reference is also made to the term or terms most used in this Award identifying said heading or subheading:

i. Preliminary Matters

a) **"Willful Breach Damages Percentage"**: The Tribunal has rejected the Claimants' Willful Breach Claim in its entirety. As such, this option has been set to "0%".

b) **"Petrozuata DA Compensation"**: The Tribunal has set this toggle to "From 2007". However, the Tribunal has established elsewhere that the Claimants are only entitled to receive compensation under the DA provisions of the Petrozuata AA from 2007 onwards with respect to the Expropriation. In turn, the Tribunal has determined that, pursuant to Section 9.07(e) of the Petrozuata AA, the Claimants may only receive compensation with respect to the Income Tax Increase as from 2013 (i.e. the fiscal year before the initiation of this arbitration).[1766] The AUVM's Control Panel does not allow making the foregoing distinction. However, pursuant to its finding, the Tribunal has edited the AUVM's "DA FCF (PZ)" tab accordingly. In particular, the Tribunal has altered the Cells S22 to X22 of said tab, by

[1765] *Supra*, §§ 581 ss .

[1766] *Supra*, § 294.xi.

replacing the references to Cells D22 and E22 with “50.5%” and “51.5%”, respectively.

ii. **“Production Volumes”**

a) **“Petrozuata”**: This toggle has been set to “B&F”.[1767]

b) **“Hamaca”**: This toggle has been set to “B&F”.[1768]

c) **“Upgrader Failure (Hamaca)”**: This toggle has been set to “Abdala”.[1769]

iii. **“Prices”**

a) **“Brent Price”**: This toggle has been set to “B&F”. However, the Tribunal has determined that the Respondents’ calculations on this input cannot be taken wholesale. While the Tribunal finds that the Respondents’ Brent price projections up to 2020 are apposite, it has deemed unreasonable their assumption of a nominally flat Brent price of USD 67.50 per barrel from 2021 until the expiration of both Projects. Accordingly, the Tribunal has decided to apply a yearly 2% inflation rate to the Respondents’ post-2020 Brent forecast.[1770] The AUVM’s Control Panel does not allow the foregoing distinction. To reflect its finding the Tribunal has thus edited the AUVM’s “Price Inputs” tab. In particular, the Tribunal has edited Cells U7 (year 2021) to AK7 (year 2037), by increasing by 2% the Brent price projected for the year before.

b) **“Maya Differential”:** This toggle has been set to “B&F”.[1771] However, the Tribunal has edited the AUVM’s “Price Input” tab to better reflect the Respondents’ position on the applicable Brent-Maya differential. In particular, the Tribunal has edited Cell D10 of said tab, by replacing the “85.88%” with a “85.89%”. This has the effect of altering Cell G10 of the AUVM’s “DA Price” tab, which,

---

[1767] *Supra*, §§ 696, 717, 737-739

[1768] *Supra*, §§ 696, 717, 774-785.

[1769] *Supra*, § 788.

[1770] *Supra*, §§ 813-815.

[1771] *Supra*, § 820.

subsequent to the Tribunal's edit, reflects a 14.11% Brent-Maya differential (as argued by the Respondents),[1772] as opposed to a 14.12% differential (as appears in the AUVM as filed by the Claimants).

c) **"Project Crude Oil Prices"**: This toggle has been set to "B&F".[1773] However, in order to better reflect the Respondents' position on the applicable Maya-Petrozuata CCO and Maya-Hamaca CCO differentials, the Tribunal has carried out certain edits to the AUVM. In particular, the Tribunal has edited the AUVM's "Price Input" tab by replacing the "100.09" in Cell D16 with a "100.08%", and the "98.37%" in Cell D15 with a "98.36%". This in turn alters Cells G18 and G15 of the "DA Price" tab, by reflecting a 100.08% Maya-Petrozuata CCO differential (as argued by the Respondents),[1774] as opposed to a 100.09% differential (as appears in the AUVM as filed by the Claimants), and a -1.64% Maya-Hamaca CCO differential (as argued by the Respondents),[1775] as opposed to a -1.63% differential (as appears in the AUVM as filed by the Claimants).

d) **"Other Product Prices"**: This toggle has been set to "Abdala". However, the Tribunal has determined that the Respondents' LPG calculations are more reliable than the Claimants'.[1776] Given that the AUVM's Control Panel does not distinguish between the various by-products sold by the Projects (the foregone volumes of which are only compensable under the Petrozuata AA),[1777] the Tribunal has edited Cell F29 of the AUVM's "DA Price" tab by changing the Claimants' LPG differential from 74.49% to 57.86%.

iv. **"Costs"**

a) **"Operating Expenses (OPEX)"**:[1778]

[1772] *Supra*, § 796.ii.

[1773] *Supra*, §§ 826, 829.

[1774] *Supra*, § 796.iii.

[1775] *Supra*, § 796.iv.

[1776] *Supra*, § 835.

[1777] *Supra*, § 832.

[1778] *Supra*, §§ 885-894.

- **"Well Repairs"**: This toggle has been set to "Abdala".

- **"Others"**: This toggle has been set to "Abdala".

b) **"Capital Expenses (CAPEX)"**:[1779]

- **"Drilling and Wellpads"**: This toggle has been set to "Abdala".

- **"Turnarounds"**: This toggle has been set to "Abdala".

- **"Others"**: This toggle has been set to "B&F".

c) **"Inflation and Costs in USD"**: This toggle has been set to "B&F".[1780]

d) **"Exchange Rate and Costs in Bolivars"**: This toggle has been set to "B&F", with a "50% DICOM" and a "No" to the "Most Favorable Exchange Rate" toggle.[1781]

v. **"Fiscal Regime"**

a) **"Windfall Profit Tax"** (Special Contribution or SPEC): This toggle has been set to "Applies" and "Not a DA".[1782]

b) **"Anti-Drug Contribution (Hamaca)"** (ADCO): This toggle has been set to "Does not apply".[1783]

c) **"Social Contribution"** (SOCO): This toggle has been set to "Not a DA".[1784]

d) **"Shadow Tax"** (Special Advantage Tax or SPAT): This toggle has been set to "Not a DA".[1785]

e) **"Income Tax"** (Income Tax Increase): This toggle has been set to "DA".[1786]

1779 *Supra*, §§ 908-909.

1780 *Supra*, § 937.

1781 *Supra*, § 948.

1782 *Supra*, §§ 963-964, 982, 990, 996.

1783 *Supra*, §§ 987-989.

1784 *Supra*, §§ 985-986, 997-998.

1785 *Supra*, §§ 963-964, 985-986, 997-998.

f) **"Extraction Tax"**: This toggle has been set to "Not a DA".[1787]

g) **"1% Royalty Holiday"** (Royalty Measure): This toggle has been set to "Not a DA".[1788]

vi. **"Interest (DA)"**: This toggle has been set to "B&F".[1789]

vii. **"Discount Rate"**: This toggle has been set to "Custom" with an "18%" rate.[1790].

viii. **Others**

a) **"Fiscal Maximization"**: This toggle has been set to "No".[1791]

b) **"Debt in Hamaca"**: This toggle has been set to "Abdala".[1792]

c) **"Science Contribution Tax Implementation"**: This toggle has been set to "B&F".[1793]

d) **"Free Cash Flow Method"**: This toggle has been set to "Abdala".[1794]

e) **"WK, Depreciation, Other Revenues & Costs"**: This toggle has been set to "Abdala".[1795]

1129. In light of the above, the Tribunal finds that the Respondents' indemnity obligation pursuant to the DA provisions of the AAs amounts to: (i) USD 489,334,468.87, under the Petrozuata AA; and (ii) USD 1,496,712,745.85, under the Hamaca AA. As such, the total compensation owed to the Claimants as a result of the Income Tax Increase and the Expropriation amounts to USD 1,986,047,214.72. In accordance with the

---

[1786] *Supra*, §§ 959-960, 1128.i.b).

[1787] *Supra*, §§ 959-960.

[1788] *Supra*, §§ 959-960.

[1789] *Supra*, §§ 1000, 1014.

[1790] *Supra*, § 1084.

[1791] *Supra*, § 1093.

[1792] *Supra*, §§ 1099-1101.

[1793] *Supra*, § 1106.

[1794] *Supra*, § 1111.

[1795] *Supra*, §§ 1119-1120.

AUVM and the Claimants' Prayer for Relief, the foregoing amounts are calculated as of 27 May 2016 and already include pre-award interest.[1796]

V. COSTS

1130. Each Party contends that all costs incurred in this arbitration, including the fees and expenses of legal representation, experts, witnesses and party representatives, the fees and expenses of the Tribunal, as well as the ICC administrative expenses should be borne by the other side.[1797]

1131. The Claimants submit that a full award of costs in their favour is warranted in light of the Respondents' conduct in these proceedings. In particular, they argue that the Respondents' approach to document production was abusive as they (i) refused to produce documents relevant to establishing the nexus between the Government and PDVSA in the period leading up to the Expropriation, as well as (ii) made "burdensome, irrelevant, immaterial, and overlapping document production requests" to the Claimants.[1798]

1132. The Claimants also argue that the Respondents' strategy of obscuring the issues in the arbitration similarly warrants an award of costs in the Claimants' favor. In this context, they point to the fact that (i) the Respondents refused to produce either Mr. Ramírez as a witness or the documents in his possession, even though the crux of the Respondents' defense to the Willful Breach Claims was the alleged separation between his roles as Minister and President of PDVSA,[1799] and (ii) the Respondents' "bloated and repetitive" pleadings in this arbitration coupled with their "frivolous" line of questioning regarding the alleged "value-cap" applicable to the Projects during the Hearing amounted to a waste of time.[1800]

1133. Finally, the Claimants also observe that the Respondents' unsuccessful bifurcation requests caused unnecessary delays in the proceedings.[1801]

1134. In their submissions on costs,[1802] the Claimants request the following amounts:

[1796] For the sake of further precision, the Tribunal notes that it formated Cells F28 to H28 of the AUVM's Control Panel in order to reflect 8 decimals (as opposed to 0 decimals as originally filed). This way, the results in the AUVM's Control Panel better represent the model's underlying data.

[1797] C-PHB, § 1014; R-PHB, § 902.

[1798] C-PHB, §§ 1015-1019.

[1799] C-PHB, § 1020.

[1800] C-PHB, § 1021.

[1801] C-PHB, §§ 1023-1025.

Sr. No.	Description	Amount Charged (in USD)
1.	Fees and expenses of the Tribunal Expenses of the Tribunal Secretary	1,253,392.50
2.	ICC administrative costs	56,607.50
3.	Contribution towards MCLF	145,355.00
4.	Total Legal Fees	9,739,332.61
5.	Fees charged by experts[1803]	3,357,338.28
6.	Travel and other expenses	901,542.90
	TOTAL COSTS CLAIMED	**15,453,568.79**

1135. In contrast, the Respondents argue that:

> Given (i) the extraordinary delay of Claimants in bringing these claims after never mentioning them for a decade; (ii) the claims' total lack of merit, including the fact that Claimants themselves, despite all their bluster about royalty and tax measures, assert no [Willfull Breach Claims] for those measures, and, with respect to the [DA Claims], actually concede that the first two measures do not constitute "Discriminatory Actions"; and (iii) Claimants' strategy of grossly exaggerating virtually all elements of quantum while at the same time pretending to be "conservative", all costs of this Arbitration should be assessed against Claimants.[1804]

1136. As to the Claimants' arguments regarding the Respondents' alleged strategy of obscuring the issues in the arbitration, the Respondents had observed in turn that the Claimants withheld documents in their possession. Such documents would have supported their interpretation of the compensation structure of the Projects, i.e., that the DA provisions capped the overall compensation that could be recovered by the Claimants for any breach of the AAs. Accordingly, the Respondents requested the Tribunal to draw an adverse inference against the Claimants in that regard.

1137. Furthermore, in response to the Claimants' argument that the Respondents failed to produce Mr. Ramírez as a witness or "internal PDVSA documents […] relating to the 'conception and formulation' of the [E]xpropriation",[1805] the Respondents emphasized

[1802] Fees and Expenses of Freshfields Bruckhaus Deringer US LLP of 17 April 2017; Fees and Expenses incurred by the Claimants of 17 April 2017 and 28 June 2017; Fees and Expenses of Three Crowns LLP of 17 April 2017; Three Crowns Costs Letter of 16 June 2017.

[1803] The Claimants have indicated that the fees charged by three of their expert witnesses, i.e. Prof. Brewer-Carías, Prof. Mata Borjas, and Prof. Mares form part of the expenses claimed by their counsel (*see* Fees and Expenses incurred by the Claimants of 28 June 2017, fn 1; Fees and Expenses of Three Crowns LLP of 17 April 2017, § 2). In order to reflect the Parties' break-up of costs in a similar manner, the Tribunal has reflected the fees charged by the experts separately and deducted the total amount charged by Prof. Brewer-Carías, Prof. Mata Borjas, and Prof. Mares from the expenses claimed by the Claimants' counsel.

[1804] R-PHB, § 902.

[1805] R-PHB, fn. 625.

that "there are no internal PDVSA documents or documents exchanged with the Government relating to the 'conception and formulation' of the expropriation, as PDVSA and the other Respondents played no role in that decision."[1806] The Respondents thus resist the Claimants' allegation that they have "obscured the issues in this arbitration" by not producing relevant documents in their possession.

1138. Accordingly, in their submissions,[1807] the Respondents claim the following costs:

Sr. No.	Description	Amount Charged (in USD)
1.	Fees and expenses of the Tribunal Expenses of the Tribunal Secretary[1808]	1,253,392.50
2.	ICC administrative fees	56,607.50
3.	Contribution towards MCLF	145,355.00
4.	Legal Fees	11,545,355.95
5.	Fees charged by experts	4,989,929.48
6.	Travel and other expenses	1,201,129.97
	TOTAL COSTS CLAIMED	**19,191,768**

1139. With due regard to the Parties' submissions, the Tribunal will first set out the relevant legal provisions on costs under the AAs and the Guarantees, the ICC Rules, and the *lex arbitri*, and then proceed to assess the allocation of costs under these rules.

[1806] R-PHB, fn. 625; Reply, § 53; Tr. (Day 1), 140:14-141:23 (Respondents' Opening Submissions), Mr. Kahale: "Finally, a word about documents. They keep saying that there must be a ton of documents internal to PdVSA or exchanged between PdVSA and the Government formulating the nationalization. I mean, that's completely silly. My experience is a little bit different from Mr. Paulsson's. In fact, many times, nationalizations don't take ten years in the making. Many times they actually do happen relatively quickly. […] Let's take a look at how the nationalization--the first mention of nationalization came about here […] it's not Mr. Ramírez who is telling Mr. Chávez what to do, it's the other way around […] There are no documents internal to PdVSA formulating the nationalization. Right after that, he went to Congress, President Chávez did, asked for an Enabling Law, Congress gave him the Enabling Law, and Decree Law 5.200 was issued, and then PdVSA comes in to implement that Decree. There are no documents. There are no negative inferences to be made. PdVSA was not involved in formulating the nationalization. It was President Chávez who instructed the nationalization. And, thereafter, there was implementation".

[1807] Respondents' Counsel's Letters of 17 April 2017 and of 27 April 2017.

[1808] The Tribunal notes that at the time of making their Cost Submissions in April 2017, both Parties had claimed a sum of USD 1,030,000 towards the advance on costs paid to the ICC to cover the fees and expenses of the Arbitral Tribunal, the expenses of the Tribunal Secretary, and the ICC administrative fees. Following the Parties' Cost Submissions, in May 2017, the ICC requested a further advance on costs of USD 280,000 from each of the Parties. In light of this request, and having paid an amount of USD 280,000 to the ICC in June 2017, the Claimants amended their costs submissions to include the aforesaid amount (*See* Three Crowns Costs Letter of 16 June 2017; Fees and Expenses incurred by the Claimants of 28 June 2017). Similarly, the Respondents paid the said advances of USD 280,000 on 13 September 2017 (*See* ICC Letter and Financial Table of 13 September 2017). However, the Respondents have not filed a similarly amended Costs Submission to reflect such payment. In the circumstances, and as this reflects the correct position on advances paid to the ICC, the Tribunal has included the USD 280,000 in the Respondents' costs claim under the category "Fees and expenses of the Tribunal and the Tribunal Secretary".

1. Relevant legal provisions on costs

a. *The AAs and the Guarantees*

1140. The AAs and Guarantees both contain provisions on the Tribunal's authority to award costs.

1141. As further discussed below, the arbitration clause in Section 13.16 of the Petrozuata AA is silent as to the allocation of costs. However, Section 13.06(a) of the Petrozuata AA provides that:

> All costs, legal fees and other expenses incurred by each Party in connection with the preperation, execution, delivery, administration and enforcement of this Agreement or any Business Contract shall be for the account of, and paid by, such Party.[1809]

1142. Further, the Petrozuata Guaranty stipulates that "PDVSA shall […] indemnify Conoco against all reasonable expenses and attorneys' fees that may be incurred by Conoco in enforcing such obligations and liabilities of [Respondent PDVSA Petróleo] and in enforcing the covenants and agreements of PDVSA contained herein."[1810]

1143. The Hamaca AA contains similar provisions and provides in Article 17.6 as follows:

> The costs of the arbitration proceedings (other than costs of arrangements for translations), including attorneys' fees and costs, shall be borne in the manner determined by the arbitral tribunal.[1811]

1144. The Hamaca Guarantee further provides that "[t]he cost of the arbitration (other than costs related to translation arrangements), including attorneys' fees and costs, will be assumed in the manner specified by the arbitration court."[1812]

b. *The ICC Rules*

1145. Turning to the allocation of costs under the ICC Rules, the relevant provisions are set out in Article 37, which provides as follows:

> 1) The costs of the arbitration shall include the fees and expenses of the arbitrators and the ICC administrative expenses fixed by the Court, in accordance with the scale in force at the time of the commencement of the arbitration, as well as the fees and expenses of any experts appointed by the arbitral tribunal and the reasonable legal and other costs incurred by the parties for the arbitration.

[1809] Petrozuata AA, **C-1**, Section 13.06(a).

[1810] Petrozuata Guranty, **C-2**, Section 3.

[1811] Hamaca AA, **C-3**, Article 17.6.

[1812] Hamaca Guarantee, **C-4**, Clause 13.

2) The Court may fix the fees of the arbitrators at a figure higher or lower than that which would result from the application of the relevant scale should this be deemed necessary due to the exceptional circumstances of the case.

3) At any time during the arbitral proceedings, the arbitral tribunal may make decisions on costs, other than those to be fixed by the Court, and order payment.

4) The final award shall fix the costs of the arbitration and decide which of the parties shall bear them or in what proportion they shall be borne by the parties.

5) In making decisions as to costs, the arbitral tribunal may take into account such circumstances as it considers relevant, including the extent to which each party has conducted the arbitration in an expeditious and cost-effective manner.

1146. These provisions confirm the Tribunal's authority to (i) decide which of the parties shall bear the costs or in what proportion they shall be borne, and (ii) determine the criteria which the Tribunal may take into consideration when coming to such costs determination.

c. *Lex Arbitri*

1147. Lastly, under the *lex arbitri*, i.e. New York law, subject to the parties agreeing to the contrary, "the arbitrator's expenses and fees, together with other expenses, not including attorney's fees, incurred in the conduct of the arbitration, shall be paid as provided in the award."[1813]

2. Analysis

1148. The relevant legal provisions above accord to the Tribunal wide discretion in determining the allocation of costs of the arbitration, including legal fees and expenses. That said, such discretion should of course be exercised with care and with due regard to the relevant criteria.

1149. In this respect, both Parties agree that the key principle governing the allocation of costs in international commercial arbitration is that costs "follow the event i.e. for the costs to be borne by the unsuccessful party".[1814] Thus, "[a] claimant that succeeds in its primary claim, which took up much of the time and effort of the arbitration, may be entitled to recover a substantial portion of its costs, even if it fails on a number of secondary or ancillary claims. Similarly, if a claimant succeeds with its major liability claim and is awarded a significant amount of damages sought under that claim, then it is reasonable to conclude that the claimant was in essence the successful party and

[1813] N.Y. C.P.L.R., **CLA-117,** § 7531.

[1814] C-PHB, § 1010, fn. 1832; R-PHB, § 902, fn. 1909; ICC Commission Report, *Decisions on Costs in International Arbitration,* ICC Dispute Resolution Bulletin, Issue 2 (2015), **CLA-116** (**RLA-155**), pp. 11, 13.

is entitled to be treated as such."[1815] Conversely, if the claimant is unsuccessful in its primary and major liability claim, it is not entitled to recover a significant portion and/or its entire claim for costs.

1150. Thus, in a nutshell, both Parties agree[1816] that in determining the allocation of costs, the Tribunal may take into consideration "the relative success or failure of the parties […] by: (i) assuming that if a claimant or respondent succeeded in its core or primary claim or outcome, then it is entitled to all of its reasonable costs; (ii) apportioning costs on a claim-by-claim or issue-by-issue basis according to relative success and failure; or (iii) apportioning success against the amount of damages originally claimed or the value of the property in dispute."[1817]

1151. In addition to the above, another factor that the Tribunal may take into consideration is the manner in which the Parties have conducted the case, keeping in mind the complexity of the case that a party has prosecuted/defended.

1152. With these considerations in mind, the Tribunal notes that the Claimants have not prevailed on their primary claim, namely the Willful Breach Claims, quantified at USD 17.89 billion. Nor have the Claimants succeeded in establishing the entirety of their DA Claims as a consequence of (i) the Royalty Measure and the Extraction Tax not constituting DAs and thus not contributing to the Claimants' losses; and (ii) the lack of proper notice of the DAs by the Claimants under the Petrozuata AA. At the same time, the Claimants legitimately and by no means in bad faith initiated arbitration proceedings, successfully established that the Income Tax Increase and the Expropriation itself constituted DAs under the AAs, entitling them to compensation. Moreover, the Claimants demonstrated that the Respondents did not perform the AAs as of the date of the Expropriation, even if that claim was ultimately unsuccessful due to lack of causality.

1153. On the other hand, the Respondents admitted that the Expropriation constituted a DA under the AAs. They were also found liable to compensate the Claimants for the Income Tax Increase (although for a reduced amount than what was claimed). In addition, the Respondents did not prevail on their counterclaim under the Hamaca AA for the buy-out of the Claimants' Project interest.

[1815] Michael W. Bühler, *Costs of Arbitration: Some Further Considerations*, *in* LIBER AMICORUM IN HONOUR OF ROBERT BRINER (2005), **CLA-112**, p. 189.

[1816] C-PHB, § 1010, fn. 1832; R-PHB, § 902, fn. 1909.

[1817] ICC Commission Report, *Decisions on Costs in International Arbitration,* ICC Dispute Resolution Bulletin, Issue 2 (2015), **CLA-116** (**RLA-155**), pp. 11.

1154. On the other hand, the Respondents successfully defended the Willful Breach Claims, which have been dismissed in their entirety.

1155. The Tribunal also observes that, as evidenced by the preceding sections of this Award, this case has raised several complex legal and factual questions, the determination of which has not been a straightforward exercise. In that regard, the Tribunal would like to acknowledge the well-reasoned and detailed pleadings of both Parties, as well as the skilled presentation of the Parties' cases by their respective Counsel during the Hearing. These have greatly aided the Tribunal in its task of determining the final outcome of this case. In general, the Tribunal considers that both sides conducted this arbitration fairly and professionally, and avoided conduct (such as acting in bad faith or raising irrelevant or spurious arguments) that would justify an allocation of costs in favor of one Party.[1818] Similarly, both Parties conducted the arbitration with the same professional ethics and dedication, as also reflected by the similarity of costs claimed by each Party.

1156. Having regard to these circumstances, the Tribunal is of the view that the relative success and failure of the Parties on the various claims and issues raised in this arbitration is very evenly balanced. As such, the Tribunal is of the view that it would be appropriate, just and fair for each Party to bear its own legal fees, costs and expenses, including the expenses related to its expert and fact witnesses. As a result, the question of any interest on the Parties' legal fees and other costs does not arise.

1157. Furthermore, the Tribunal is of the view that the costs of the Arbitration, including the fees and expenses of the Tribunal and the expenses of the Tribunal's Secretary as well as the ICC administrative expenses, have to be evenly divided between the Parties. In that regard, the Tribunal notes that up to a certain stage both Parties had paid an equal sum of USD 1,310,000.00 towards advance on costs to the ICC.[1819] However, following (i) the ICC's further increase of advance on costs and (ii) the Respondents' non-payment of their share, the entire amount was paid by the Claimants. Thus, as determined in the ICC's letters of 27 and 30 March 2018, the

[1818] The Tribunal acknowledges that the Claimants' case on the Willful Breach Claims underwent an evolution throughout this arbitration. In fact, it acquired its final form – namely the First Willful Breach Claim regarding breach of the "reasonable commercial efforts" obligation and the Second Willful Breach Claim regarding the non-performance of the AAs – only in the Claimants' post-hearing submissions as a result of a new line of argument that developed at the Hearing. Be that as it may, taking into account the Parties' pleadings and arguments at the Hearing, the Tribunal considers that the Claimants' changing position did not detract from the overall efficient and fair conduct of this case so as to warrant the allocation of costs in favour of the Respondents.

[1819] *Supra*, §§ 1134, 1138 with accompanying footnotes.

final amount of advance of costs paid by the Claimants amounts to USD 1,840,000, while the final amount paid by the Respondents amounts to USD 1,310,000.

1158. The ICC Secretariat holds a balance of USD 100,000, which it shall reimburse to the Claimants. The Tribunal furthermore determines that, in order for the Claimants to recover the amount paid above their share of the costs of the arbitration (i.e., USD 315,000), the Respondents shall reimburse the Claimants USD 215,000 that the Claimants have paid on their behalf. The Tribunal also determines that to this sum simple interest will accrue at 12-month Libor starting from the date of the Award.

1159. Similarly, considering that the 4% of the Italian MCLF applied to the fees of co-arbitrator Prof. Avv. Giardina corresponds to USD 32,400.00, and that such sum is to be paid from the amount deposited solely by the Claimants in the Special Account created and administrated for this purpose with the ICC, the Respondents are requested to reimburse half of the amount in question (i.e. USD 16,200.00) to the Claimants. The Tribunal also determines that to this sum simple interest will accrue at 12-month Libor starting from the date of the Award. The ICC will return to the Claimants the sum remaining in the Special Account.

1160. For the sake of completeness, the Tribunal notes that it has paid due regard to the fact that the Petrozuata AA and the Petrozuata Guaranty contained some provisions regarding the Parties' obligation to pay the costs, legal fees and expenses in connection with, *inter alia*, "the preparation, execution, delivery, administration and enforcement" of the obligations under the Petrozuata AA. In that respect, the Petrozuata AA stipulates that each party shall bear its own costs, legal fees and expenses.[1820] On the other hand, the Petrozuata Guaranty stipulates that the costs, legal fees and expenses incurred by the Claimants towards the enforcement of the AA shall be indemnified/guaranteed by the Respondents.[1821]

1161. However, as the Claimants have rightly observed, these provisions do not form part of the respective arbitration clauses in the Petrozuata AA and the Petrozuata Guaranty.[1822] Indeed, they appear to deal with costs more generally, as can be ascertained from the fact that they also concern costs, legal fees and expenses incurred in connection with the "preperation, execution, delivery, [and]

[1820] Petrozuata AA, **C-1**, Section 13.06(a).

[1821] Petrozuata Guaranty, **C-2,** Section 3.

[1822] C-PHB, fn. 1824.

administration”[1823] of the Petrozuata AA. Accordingly, in the Tribunal’s view the reference to costs incurred towards “enforcement” of the Petrozuata AA does not pertain to cost assessment in arbitration which falls within the domain of the Tribunal’s authority. The Tribunal thus finds that such a general provision on costs does not curtail its authority and discretion to allocate costs as a result of these arbitration proceedings.

1162. The Tribunal’s above conclusion regarding the language and purpose of these provisions is buttressed by the contrasting language of the costs provisions in the Hamaca AA and the Hamaca Guarantee, both of which specifically refer to the “costs of the arbitration”.[1824] Thus, despite the contractual silence on this question under the Petrozuata AA, it seems logical to conclude that if the Parties had intended for the respective clauses in the Petrozuata AA and Guaranty to extend to arbitration costs, they would have used appropriate language to this effect. In the circumstances, the costs provisions in the Petrozuata AA and Guaranty do not impact or alter the Tribunal’s decision to split the costs evenly, because the Claimants have been partially unsuccessful in “enforcing the AAs”, which in turn has resulted in costs being incurred by the Respondents in defending against these claims.

[1823] Petrozuata AA, **C-1**, Section 13.06(a).

[1824] Hamaca AA, **C-3**, Article 17.6; Hamaca Guarantee, **C-4**, Article 13.

VI. DECISION

1163. In light of all the foregoing considerations and determinations on both liability and quantum, the Tribunal:

i. **DISMISSES** the entirety of the Claimants' claims regarding the alleged willful breaches by PDVSA Petróleo, Corpoguanipa, and/or PDVSA of their contractual obligations and duty of good faith with respect to the Association Agreements and/or the Petrozuata Guaranty or the Hamaca Guarantee;

ii. **DECLARES** that the Respondents' actions do not constitute an *hecho ilícito* under Venezuelan law and dismisses the Claimants' claim in this regard;

iii. **DECLARES** that the Income Tax Increase and the Expropriation constitute Discriminatory Actions under the Association Agreements, whereas the Royalty Measure and the Extraction Tax do not constitute Discriminatory Actions;

iv. **DECLARES** that PDVSA Petróleo is liable to compensate CPZ for the Discriminatory Actions under the terms of the Petrozuata Association Agreement, in an amount quantified at USD 489,334,468.87, including interest (as of 27 May 2016);

v. **DECLARES** that PDVSA is liable to compensate CPZ for the Discriminatory Actions under the terms of the Petrozuata Guaranty, in an amount quantified at USD 489,334,468.87, including interest (as of 27 May 2016);

vi. **DECLARES** that Corpoguanipa is liable to compensate CPH for the Discriminatory Actions under the terms of the Hamaca Association Agreement, in an amount quantified at USD 1,496,712,745.85, including interest (as of 27 May 2016);

vii. **DECLARES** that PDVSA is liable to compensate CPH for the Discriminatory Actions under the terms of the Hamaca Guarantee, in an amount quantified at USD 1,496,712,745.85, including interest (as of 27 May 2016);

viii. **AWARDS** the Claimants compensation for the Discriminatory Actions, in an amount quantified at USD 1,986,047,214.72, already including pre-award interest (as of 27 May 2016) (i.e. the sum of the amounts identified in paragraphs 1163.iv and 1163.vi above);

ix. **AWARDS** the Claimants post-award interest, on a simple interest basis, to run from 27 May 2016 until the date of full and final payment of the amounts indicated in paragraphs 1163.iv and 1163.vi above, at: (i) 12-month LIBOR in relation to the sum indicated in paragraph 1163.iv above; and (ii) 3-month LIBOR in relation to the sum indicated in paragraph and 1163.vi above;

x. **DISMISSES** the counterclaim of Respondent 2 in its entirety;

xi. **DECLARES** that each Party is to bear its own legal fees, costs and expenses;

xii. **DECLARES** that the fees and expenses of the Tribunal and the expenses of the Tribunal's Secretary as well as the ICC administrative expenses are to be evenly divided between the Parties. The Respondents shall reimburse to the Claimants the payments of the advance on costs in the amount of USD 215,000 and the payment of the Italian MCLF in the amount of USD 16,200 which were made by the Claimants on behalf of the Respondents, with simple interest to accrue on these amounts at 12-month LIBOR starting from the date of the Award;

xiii. **DECLARES** that this Award is net of all applicable Venezuelan taxes and that any taxes under Venezuelan law with respect to the payment of the net amounts awarded herein shall be born jointly and severally by the Respondents, so that the amount effectively received by the Claimants after deduction of all applicable taxes corresponds to the full amount granted by the Tribunal;

xiv. **DISMISSES** any and all other claims.

Place of the arbitration: New York City, New York (U.S.A.)

Date: April 24, 2018

Prof. Laurent Aynès
Co-arbitrator

Prof. Andrea Giardina
Co-arbitrator

Dr. Laurent Lévy
President